

Commanding and Command Processor Phase III Thread, Atlas DP1

Checkout and Launch Control System (CLCS)

84K00303-002

Approval:

Chief, Hardware Design Date
Division

Chief, System Engineering Date
and Integration Division

Chief, Software Design Date
Division

CLCS Project Controls Date
Office

Chief, System Date
Applications Division

Project Manager, CLCS Date

PREPARED BY: J. W. Blackledge

Tom Jamieson

Walter Clavette

Supporting Document Note:

Acronyms and definitions of many common CLCS terms may be found in the following documents: CLCS Acronyms 84K00240 and CLCS Project Glossary 84K00250.

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Assessment Team

Name	CI Represented	E-Mail Address	Phone
Aiello, Pete	O & M	AielloPR@kscgws00.ksc.nasa.gov	1-7294
Blackledge, Jack	Thread Lead	BlackJW@kscgws00.ksc.nasa.gov	1-9078
Bullington, Van	LDB Gateway	BulliJV@kscgws00.ksc.nasa.gov	1-4567
Clavette, Walter	Command Support	ClaveWP@kscgws00.ksc.nasa.gov	1-9043
Cummins, Scott	LDB Gateway	CummiSR@kscgws00.ksc.nasa.gov	1-2291
Hooker, Brian	Command Support	HookeBC@kscgws00.ksc.nasa.gov	1-9032
Hrezo, Gary	System Viewers	HrezoGW@kscgws00.ksc.nasa.gov	1-9022
Ikerd, Rich	User Applications	IkerdRG@kscgws00.ksc.nasa.gov	1-7541
Jamieson, Tom	System Engineering	JamieTJ@kscgws00.ksc.nasa.gov	1-9088
King, Charla	DBSafe	KingCG@kscgws00.ksc.nasa.gov	1-7587
Krzos, Mike	Command Support	KrzosMJ@kscgws00.ksc.nasa.gov	1-9035
Lunceford, Mike	GSE Gateway	LunceJM@kscgws00.ksc.nasa.gov	1-2294
Owens, Robert	Command Support	OwensRL@kscgws00.ksc.nasa.gov	1-9034
Penn, Ron	System Test		
Quinn, Shawn	System Design	QuinnSM@ kscgws00.ksc.nasa.gov	1-9065
Pierce, Robert	User Applications	PierceRG@kscgws00.ksc.nasa.gov	1-7505
Raymond, Robert	Command Support	RaymoRA@kscgws00.ksc.nasa.gov	1-9036
Robinson, David	Command Support	RobinJD@kscgws00.ksc.nasa.gov	1-9038
Samson , Julia	Application Services	SamsoJH@kscgws00.ksc.nasa.gov	1-9001
Simons, Kris	Command Support	SimonKJ@kscgws00.ksc.nasa.gov	1-9033
Tharpe, Wesley	System Test		

Table 1 Assessment Team

1. INTRODUCTION

1.1 COMMANDING AND COMMAND PROCESSOR THREAD OVERVIEW.

The Commanding and Command Processor thread supports commanding by cursor control, manual input, Test Application Scripts, and End item Managers. In addition, it provides the basic command processor GUI and command structure for CLCS.

1.2 COMMANDING AND COMMAND PROCESSOR THREAD CONCEPT

RTPS commands are directed to end item function designators, RTPS system functions, and applications software. Figure 1^{Figure 1} illustrates the RTPS conceptual model for commands issued to function designators and RTPS system functions. Function designator commands and RTPS system commands originate at the Command and Control Workstation from user displays, the Command Processor, or command scripts. End Item Managers in the Command and Control Processor may also issue function designator commands and some RTPS system commands. In both systems, the Applications Services provide the interface for commands to be transmitted to the Command Manager.

The Command Manager performs authentication functions appropriate for the subsystem location. Command Management in the CC W/S uses Inter-process communications to forward commands to the CCP Command Management. In the CCP, Command Management performs additional authentication, and, for Function Designator commands, Prerequisite Control Logic checks are performed. Authorized commands are then transmitted to the appropriate Gateway subsystem or to the appropriate RTPS system function.

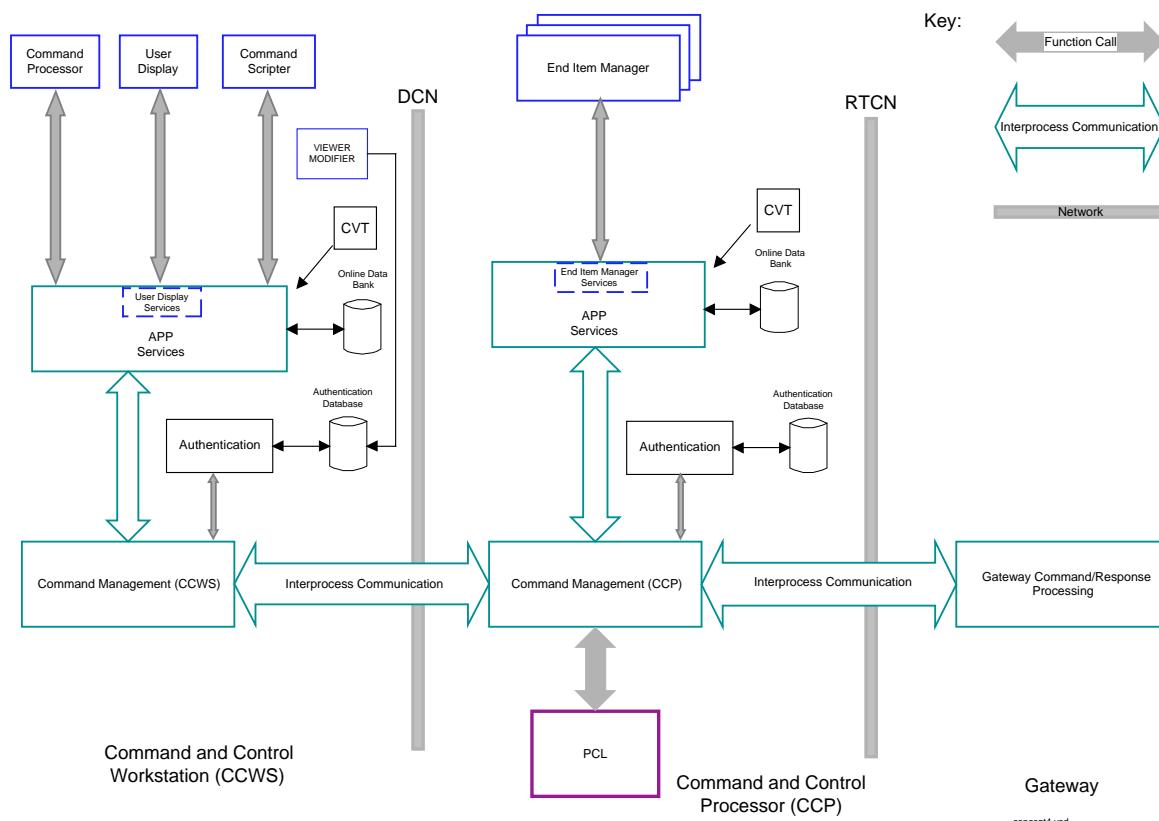


Figure 1 Commanding and Command Processor Thread Concept - 1

Figure 2 illustrates the RTPS conceptual model for application software commanding. Commands from the user interface in the CC W/S are transmitted to applications software in the CCP via CORBA (Common Object Request Broker Architecture). Command Management in the CCP provides a CORBA filter that performs appropriate authentication on applications commands. Authorized commands are then transmitted to the targeted application (End Item Manager). This filter is also used to authenticate End Item Manager to End Item Manager commands.

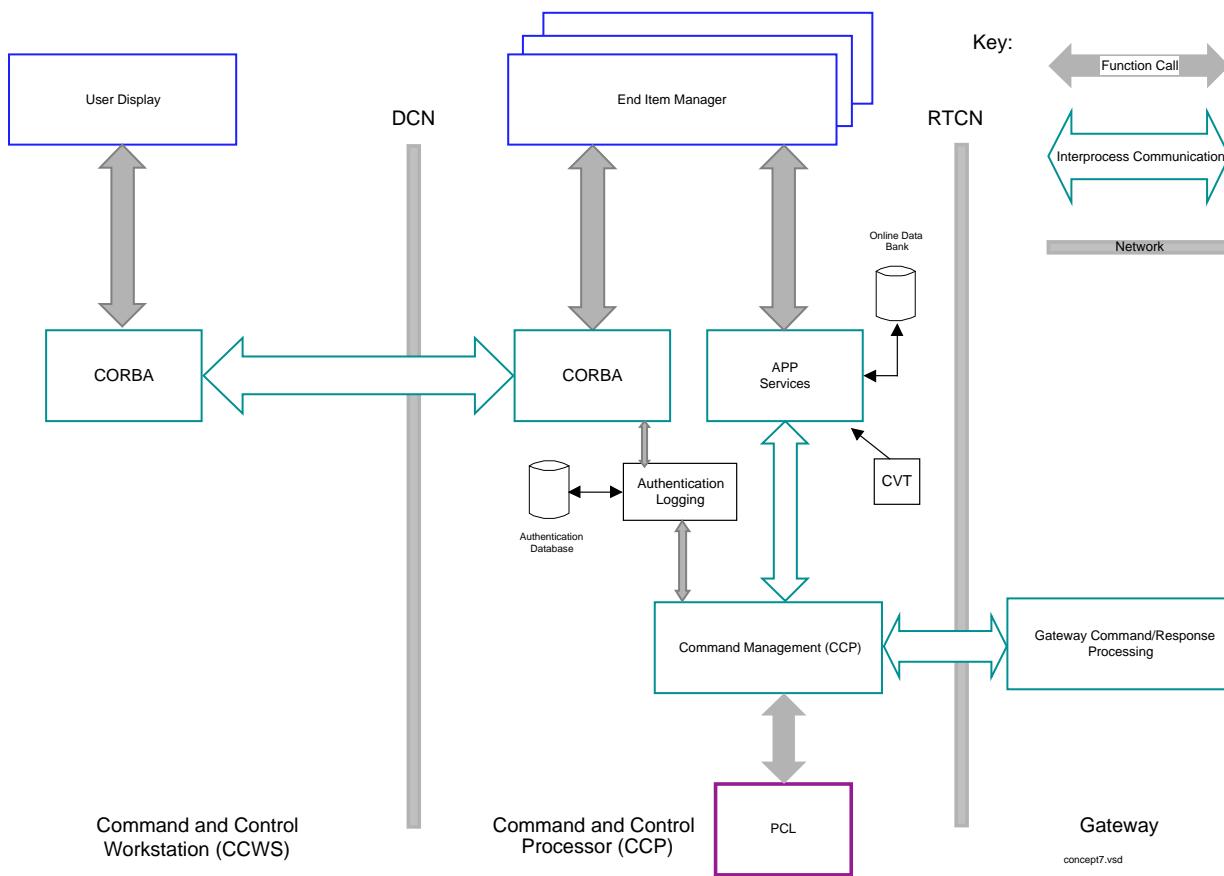


Figure 2 Commanding and Command Processor Thread Concept - 2

1.3 OPERATIONAL AND FUNCTIONAL OVERVIEW

Commands may originate in the CCWS or in the Command and Control Processor (CCP). Commands are issued to end items under test or to RTPS system functions.

All commands are authenticated to assure that user or the application software has the proper permissions to issue commands. Commands to end item hardware may have prerequisite control checks that determine if it is safe to issue the command.

1.3.1 CCWS Commanding

In the Command and Control Workstation, there are three methods to issue commands:

1. Graphical User Interface Displays
2. Command Line
3. Command Scripter

The Graphical User Interface Displays are provide as part of the system software (System Viewers) or created by users (User Display Applications). Both types of GUI command functions use the User Display Services provide in Application Services. System Viewers provide generic capability to issue end item commands. End item commands may be selected from menus, lists, or may be entered by function designator name. System Viewers also provide

the means to issue RTPS system control commands. For example, the System Status Viewer provides health and status information about each of the RTPS subsystems. Using a pointing device, a user may select a subsystem and then invoke a command menu that allows the user to issue system control commands such as Activate Data Acquisition, switch standby to active, etc. The user must have the appropriate permissions to issue these commands.

GUI User Applications may issue hardware end item commands or commands to End Item Managers (EIM), Test Application Scripts, or pseudo function designators. Commands to EIM's or TAS applications are routed to their destination via CORBA. Authentication is performed by a CORBA filter that also records the command transaction to the SDC. Hardware End Item commands are authenticated and forwarded to the appropriate gateway.

The command line interface allows users to type in commands that adhere to the command syntax. Responses that do not contain more than one line of information are displayed directly on the display. Responses that contain larger amounts of data invoke a viewer. As commands are entered, they are routed to the command scripter which maintains a command history table that may be edited and stored on disk for later recall.

1.3.2 CCP Commanding

End Item Managers and Test Application Scripts may send commands to other applications (EIM's or TAS), hardware end items, pseudo function designators, and to RTPS subsystems. Command between applications are routed via CORBA. The CORBA filter performs authentication using a user class to applications assignment table. Commands to hardware end items are authenticated using the user class to applications assignment table then, if appropriate, a prerequisite control logic check is performed. Authorized commands are sent to the appropriate gateway.

1.3.3 Command Authentication

Authentication is performed on all commands. Commands to hardware end items and pseudo function designators are authenticated against user class information provided in the On Line Data Bank (OLDB) and updated during test operations. Authentication of system control commands is performed against a RTPS table of commands and user classes. A system viewer is provided for users to modify the authentication data base.

1.4 COMMANDING AND COMMAND PROCESSOR THREAD SPECIFICATION

1.4.1 Atlas Statement of Work

Analyze the SLS and "Other Requirements" that are included and provide an assessment in DP1 of:

- Whether the requirement is incorporated into the Atlas release,
- The level of maturity the implementation the requirement will achieve in Atlas
 - Low = function only implemented in one subsystem,
 - Medium = function implemented in multiple CSCIs/Subsystems, but capability not available across the entire system,
 - High = function is implemented nearly everywhere, or
 - Complete = function is implemented everywhere that it is needed
- If the requirement will have to be verified for HMF to be declared operational

Command Management

- Develop requirement table from SLS Appendix BA listing the following:
 - Command has command line interface.
 - Command line interface is functional Command has application interface.
 - Command has GUI interface.
 - GUI Interface is functional Command has System Viewer Interface
 - Command Executes.

- Replace SLS Appendix [BA](#) with requirement specification
- Develop a set of test procedures to test requirements as noted from the SLS and Applications.
- Complete commanding for
 - End Item Manager to Gateway
 - Command processor to Gateway
- Command processor to End Item Managers**
- [Authentication of](#) End Item Manager application to End Item Manager application commands.
- Provide all Launch Data Bus [FD](#) commands.
- Complete Launch Data Bus memory read write commands (GPC Memory Read, GPC Memory Write, Launch Data Bus Control)
- Provide support for commands needed for the Launch [Dedata](#) Bus Interface Atlas Thread including application services.
 - Read and Load BITE status register
 - Perform BITE Test {1,2,3,4}
 - Perform Master Reset
 - Perform Text Command
- Provide prototype of \$CMD function for CLCS ([Provided in Thor](#))
- Complete command authentication processing

Command Processor

- Provide specific support for command GUIs needed by Commanding Phase 3 Thread
- Implement a complete set of GUIs to provide command functions needed in RTPS

1.4.2 Requirements

SLS Requirement	Description	Atlas DD State	Actual State
2.2.1.1.3	The CLCS shall be designed to have a high level of data integrity. Specifically the system shall provide the following: No loss of command data within the CLCS.	Partial	Partial
2.2.2.1.4	The system shall provide the capability for a single test (control) application to queue multiple LDB commands to support every LDB command opportunity.	Complete	Complete
2.2.2.1.8	GSE command/response latency of a priority command, or of a non-priority command in an unloaded system, shall be less than 20 milliseconds from the time a test/control application issues the command until the response is received by the test application.	Complete	Complete
2.2.2.1.14	The system shall support executing a manual command in less than one second from human execution to RTPS interface output.	Complete	Complete

2.2.2.2.2	RTPS shall be able to support full Uplink command rates on the following links: <ul style="list-style-type: none">• LDB - 8/second• PCM Uplink - 50/second (<i>Titan</i>)• GSE - 500/second.	Complete Complete Reference Complete	Partial
2.2.2.2.3	All PCM Downlink and GSE gateways shall be able to support 10 table maintenance changes per second, with all measurement values changing every sample with no checkpointing active, per Table 2.2.	Complete	Complete
2.2.3.2.1	The CLCS shall process all data types processed by the CCMS except MODCOMP Floating Point Data Types. (See Appendix A)	Complete	See Appendix
2.2.3.2.2	The CLCS shall process the following additional data types		
2.2.3.2.2a	<i>12 bit GSE Analogs</i>		
2.2.3.2.2b	<i>16 bit GSE Analogs</i>		
2.2.3.2.2c	Multi-word digital patterns		
2.2.3.2.2d	<i>Strings</i>		
2.2.3.2.2e	<i>IEEE 754 floating point</i>		
2.2.3.2.2f	<i>State (Enumerated)</i>		
2.2.5.5.1	RTPS shall provide the capability to verify that certain conditions are met before issuing any FD command to an End-Item.	Complete	Complete
2.2.5.5.3	RTPS shall provide the capability to override Prerequisite Control Logic prior to and after a command has been blocked.	Complete	Complete
2.2.5.5.4	RTPS shall provide the capability for Reactive Sequence Test applications to bypass Prerequisite Control Logic.	Complete	Complete
2.2.5.8.8	The RTPS User Display function shall provide the capability to issue cursor control commands to End-Item Managers.	Complete	Complete
2.1.1.1.1	The RTPS shall meet the requirements allocated to the LPS/LDB interface specified in: <ol style="list-style-type: none">1. SS-P-0002-150, Space Shuttle LDB Software Interface Requirements2. ICD-2-0A003, Section 3, Flight Vehicle/LPS Computational Systems Interface		Partial Partial

2.1.1.2	<p>The RTPS shall provide the capability, in GPC Mode, to issue commands and to receive measurement data, via the GPCs, from:</p> <ol style="list-style-type: none"> 1. Orbiter Multiplexers/Demultiplexers (MDM) (i.e., Flight Critical, Payload, Flex, SCA, and Command Decoders) 2. Master Events Controller (MEC) 3. Pulse Coded Modulation Master Units (PCMMU) 4. Mass Memory Units (MMU) 5. SSME Controllers 6. Solid Rocket Booster (SRB) MDMs 7. Engine Interface Units (EIU) 8. Payload Data Interleaver (PDI) 9. Payload Signal Processor (PSP) 10. Space Lab (SL) Experiment/Subsystem Computers 11. Display Electronic Units (DEU) 		Complete Complete None None None None None None None None Partial
21.1.3	<p>The RTPS shall provide the capability, in Direct Input/Output (DIO) Mode (i.e., when the GPCs are not active), to issue commands to and receive measurements from:</p> <ol style="list-style-type: none"> 1. Solid Rocket Booster MDMs 2. Command Decoder MDMs 		N/A
2.1.1.4	<p>The RTPS shall provide the capability to interface with all GPC Functional Destinations available via the LDB.</p> <ol style="list-style-type: none"> 1. Systems Software Avionics Command Support (SACS) 2. Test Control Supervisor Single Commands (TCS-1) 3. Mass Memory (MM)/Display Electronics Unit (DEU) Read 4. Space Shuttle Main Engine (SSME) Load Program (SLP) 5. Launch Sequence (LS) 6. Test Control Supervisor Test Sequences (TCS-S) 7. Continuation of previous TCS-S sequence containing the same transaction ID 		Complete Complete None None None None None
2.1.1.5	<p>The RTPS shall provide the capability to load, modify, dump, and verify the memory of Space Shuttle computers according to the following matrix:</p> <p>GPC Main Memory: Dump, Verify, Modify Mass Memory: Dump, Verify, Modify DEU Memory: Dump, Verify PCMMU: Dump, Verify SSME: Dump, Verify, Modify</p>		Partial Partial Partial Partial None

2.1.1.5.1	The RTPS shall provide the capability to Uplink commands to the Orbiter GPC via the PCM Uplink interface as defined in: 1. SS-P-0002-140, Space Shuttle Downlist/Uplink Software Requirements. 2. MG038101, Backup System Services Program Requirements Document.		None None
2.1.1.5.2	The RTPS Gateway shall be capable of interfacing to a minimum of three Uplink PCM data destinations (hardline, and two RF destinations) simultaneously, with only one of the sources being actively transmitted.		None
2.1.1.5.3	At CITE, the RTPS shall provide the capability to generate Uplink commands in the “NSP Switched Out” format.		None
2.1.1.5.4	At CITE, the RTPS shall provide the capability to generate Uplink commands in the “NSP Switched In” format.		None
2.2.3.3	The CLCS must provide the capability to issue commands available with the LPS. In addition, the CLCS must issue new command types which will be required by systems that the CLCS will interface with in the future.		Partial
2.3.3.3.1	The CLCS shall provide the capability to issue all keyboard commands in Appendix B with a Y in the column titled “IMPL” (implement). (See Appendix)		Partial
2.2.3.3.2	The CLCS shall provide the capability to protect from inadvertent issuance of commands. 1. Prerequisite logic 2. Two step protocol required on commands entered from the keyboard (e.g., arm, execute, and disarm logic) 3. Two step protocol required on commands issued using a pointing device.		Complete Complete Complete
2.2.3.3.3	The CLCS shall provide the capability to restrict issuance of commands to only authorized users and applications.		Complete
2.2.4.1	The CLCS provides a means of manually commanding, monitoring, and controlling end item hardware and software similar to the Command Processor in the CCMS. The Command Processor functions will be analyzed on a one for one basis and each function will be allocated to the appropriate area within the CLCS for development.		Partial
2.2.4.1.1	The CLCS shall provide, using a Graphical User Interface (GUI) paradigm, the capabilities identified in Appendix B with a Y in the column titled “IMPL” (implement).		Partial

2.2.4.3.2	The RTPS shall provide a FD Viewer which provides a mechanism for viewing all available information about any RTPS FD.		Complete
2.2.5.5	To protect against inadvertently issuing a command which could injure personnel or damage equipment, CLCS provides the capability for the user to predefine logic that verifies the appropriate conditions are met prior to executing the command.		Complete
2.2.5.8.7	The RTPS User Display function shall provide the capability to issue commands to FDs by cursor control regardless of whether there is a End-Item Manager controlling the FDs or not		Complete
2.2.10.1.6	The RTPS shall record all commands and command responses to the SDC.		Complete
Other System Requirements	Description	State	
4.1.4 (Same as 4.2.1.4)	The system shall provide a method to specify a time value for a discrete command. This command shall set the command to the indicated state for the specified period and then return it to the original state.	Complete	Complete
4.1.5	The system shall provide a global constant (method of) indicating why a command has failed. This status shall indicate the following error conditions:	Complete	Complete
4.1.5.1	Command blocked by a prerequisite sequence	Complete	Complete
4.1.5.2	Command blocked by authentication	Complete	Complete
4.1.5.3	Command parameter mismatch	Complete	Complete
4.1.5.4	Time out	Complete	Complete
4.2.1.1	The system shall provide a method to issue values to analog output FD's.	Complete	Complete
4.2.1.3	The system shall issue discrete output FD's using the literal key words OPEN, CLOSE, TRUE, FALSE, WET, DRY, ON, OFF.	Complete	Complete
4.2.1.4	The system shall provide a method to specify a time value for a discrete command. This command shall set the command to the indicated state for the specified period and then return it to the original state.	Complete	See 4.1.4
4.2.1.6	The system shall provide a method for issuing a value to digital pattern output FD's.	Complete	Complete
4.2.1.7	The system shall support one-to-one and one-to-many options for the issuance of values to FD's	Complete	Partial
4.2.1.8	The system shall validate that issued values are compatible with Function Designator types prior to issuing the command.	Complete	Complete
4.2.4.1.1	The system shall provide a method for changing the constraint limits associated with an analog FD.	Complete	Complete

4.2.4.3.2	The system shall provide a method for changing the significant change value of an analog FD.	Review	N/A
4.2.4.3.3	The system shall provide a method for changing the stale data count for any FD.	Review	None
4.2.4.3.4	The system shall provide a method for changing calibration coefficients.	Complete	Complete
4.2.4.3.7	The system shall provide a method to activate or inhibit stale data checking on a per FD basis.	Review	
4.2.3.9	The system shall provide a method for reading the current significant change value for an analog FD.	Review	N/A
4.2.3.10	The system shall provide a method to read the current stale data count for any FD.	Review	
4.3.1.4	The system shall provide a method to activate or inhibit stale data checking on any gateway.	Review	

Table 2 Commanding and Command Thread Requirements**Derived Requirements:**

- [Redefine Command Syntax](#)

1.5 COMMANDING AND COMMAND PROCESSOR THREAD HARDWARE DIAGRAM

Not applicable.

1.6 COMMANDING AND COMMAND PROCESSOR THREAD DELIVERABLES

The following is a list of Atlas deliverable products for the Commanding and Command Processor Thread

Deliverable	R&D Document	Code	API Manual	Users Guide
Command Management	x	x		
Command Processor	x	x		x
Command Scripter	x	x		x
Command Authentication	x	x		
Viewers		x		x
Authentication Database		x		
Command GUI Viewer	x	x		
Application Services	x	x	x	

Table 3 Atlas Commanding and Command Processor Thread Deliverables**1.7 COMMANDING AND COMMAND PROCESSOR THREAD ASSESSMENT SUMMARY**

This section contains the summary of the costs and labor involved in implementing the Commanding and Command Processor Thread.

1.7.1 Labor Assessments

The total Labor Costs required to provide this Commanding and Command Processor Thread are summarized in the following table:

No.	CSCI/HWCI Name	Atlas LM	Changes covered in
1	Command Support CSCI - Command Management CSC - Command Authentication	19	Commanding and Command Processor Thread
2	Command Support CSCI - Command Processing CSC	29	Commanding and Command Processor Thread
3	LDB Commanding	22**	LDB Thread
4	Command support for System Integrity	9**	Redundancy Management
5	Application Services (Basic)	21(*18)*+	Commanding and Command Processor Thread
6	Application Services (Tailored)	0	CCP Application Integration Thread
7	System Viewers	10	Commanding and Command Processor Thread
8	TCID Build & Control		Test Build Thread
9	Data Bank		Test Build Thread
	* = if CORBA is used		
	TOTAL	79(76)	** not included in total *+ does not include LDB, pwr up

Table 4 Commanding and Command Processor Thread Labor Assessments

1.8 COMMANDING AND COMMAND PROCESSOR THREAD SCHEDULE & DEPENDENCIES

1.8.1 Schedule

This section contains a schedule of major activities and milestones. Required activities and dates in the schedule are Phase One, Phase Two, Phase Three, Implementation, Unit Test, and Test.

Task Name	Start	Finish
Atlas Assessment Kickoff		1/20/98?
Concept Panel Internal Review	2/5/98	3/11/98
Concept Panel		
Atlas Development		
Requirement Panel Internal Review		3/25/98
Requirement Panel		3/27/98
Design Panel Internal Review		4/22/98
Design Panel		4/24/98
CSCI Unit Testing		
CSCI Development Integration Test		
CSCI Formal Integration Test	7/27/98	8/7/98
Support System Integration Test	8/25/98	9/26/98
Atlas Development Complete		9/26/98

Table 5 Commanding and Command Processor Thread Schedule

1.8.2 Dependencies

Table 6 identifies dependencies that the Commanding and Command Processor thread has in order to be satisfactorily specified, designed, implemented, and tested.

No.	Dependency Area	Dependency	Need Date
1		Simulation hardware connections	
2		Atlas Database updates	

No.	Dependency Area	Dependency	Need Date
3		CLCS Validation TCID	
4	Application Services	API definitions; object definitions	TBD
6	System Services	Updated IPC (RM)	Mid Atlas
7	OPS CM	User Class Assignment to CCWS	
8	Test Build	User Class for FD's in OLDB	
9	Test Build	User Class for EIM - EIC	
10	Constraint Mgt.	Concept for authentication	

Table 6 Commanding and Command Processor Thread Dependencies

1.9 COMMANDING AND COMMAND PROCESSOR THREAD SIMULATION REQUIREMENTS

This section contains a list of Simulation Requirements needed to test the Commanding and Command Processor.

Math Models providing PCM Downlink data, LDB read/write functions, GSE functions, ME data
Physical link connections to KATS lab
Physical links to SGOS/VSI
Physical links to HMF
SDE 1 & 2, IDE

1.10 COMMANDING AND COMMAND PROCESSOR THREAD INTEGRATION AND SYSTEM TEST PLAN

The Command and Command Processor Thread testing shall be accomplished on the SDE and IDE systems while attached to the LPS SGOS. A CLCS validation TCID and SGOS math model will be developed to provide a set of well known function designators and a predictable test environment. Command scripts will be developed to automate the testing process. The KATS lab will be used to perform commands such as LDB bus switching, GMEM Read and Write. System Test for HMF activation will be performed at the HMF. The HMF TCID prepared for HMF activation will be used during System Test.

The TCID and SGOS model will support:

1. Launch Data Bus commands and measurements
2. GSE commands and measurements
3. PCM downlink measurements

Measurement type supported are:

1. Analog
2. Discrete
3. Digital pattern

Command types supported are:

1. Analog stimulus
2. Discrete stimulus
3. Digital Pattern Stimulus

The test procedure is illustrated in Appendix B.

1.11 COMMANDING AND COMMAND PROCESSOR THREAD TRAINING REQUIREMENTS

This section contains a list of Required Training. The list should consider developers, sustaining personnel and operations personnel.

1.11.1 Training Needed

LDB Command Class, March 16 - 17, 1998

1.11.2 Training to be provided

1.12 COMMANDING AND COMMAND PROCESSOR THREAD FACILITIES REQUIREMENTS

None.

1.13 TRAVEL REQUIREMENTS

None.

1.14 COMMANDING AND COMMAND PROCESSOR THREAD ACTION ITEMS/RESOLUTION

It is highly desirable to have both a GUI and a command line interface for almost all commands. It is also required to have a means of recording GUI commands to a file with the capability of automatically executing a stored command sequence. The file must be editable by a text editor. These capabilities will be contained in DP2.

2. CSCI ASSESSMENTS

This section provides the individual CSCI assessments. This information is summarized in section 0.

2.1 COMMAND SUPPORT CSC

Command Support CSCI will provide additional command syntax, command interfacing, enhance command flow, and support authentication and PCL. Command Support will provide a prototype Command Scripting GUI..

Command Support (CMD) Work Required

1. Engineer, design and implement requirements: 4.2.1.4.

Command Management (CMM) Work Required

1. Route commands to appropriate CCP (with PCL)
2. Add activity counter
3. Add PCL interface changes as necessary.

Command Processor (CMP) Work Required

1. Log keystroke information
2. Add Performance Instrumentation
3. Rehost Command Processor to a Java interface
4. Provide Java commanding interfaces
5. Create and implement new Command Line Syntax (based on results from Issue P-3)
6. Implement syntax for 50 ATLAS commands. (22 GSE and other, LDB/PCM in referenced in LDB Thread assessment)
7. Provide 4 additional , one build only, test/debug commands.

Other Commanding Interface (FDC +) Work Required

1. Add interfaces for additional objects related to commands listed in Appendix A. (22 new commands represented.)

Command Scripter Work Required

1. Design and prototype user interface.
2. Integrate the scripting interface with Command Processing Parse and Build objects.
3. Rehost Command Scripter to a Java interface.

Authentication Work Required

1. Refine Authentication Requirements
2. Refine the Authentication overall design.
3. Define Constraint Management Authentication paradigm and requirements.
4. Provide user class assignment capabilities.
5. Update Authentication Tables.
6. Add activity counter

CSCI Assessment

CSC Name	CSC Labor (LM)	% of CSC
Command Support	.5	
Command Management	5.5	
Command Processor	27	
Command Interface	4	
Command Scripter	1.5	
Authentication Interface	9.5	100 %

Table 7 Command Support CSCI Assessments

Basis of estimate

- **Command Management:** Provide sustaining engineering of Thor Command Management/Command Interface code. (3 LM)
- **Command Management:** Command Management tasks will interface with System Integrity to provide a activity counter. (.5 LM)
- **Command Management:** Investigate methods of capturing commands from user inputs for recording and scripting. Provide a white paper outlining the possible solutions for implementation in Titan (Pre DP1). (2 LM)
- **Command Processor:** Provide sustaining engineering of Thor Command Processor code. (2 LM)
- **Command Processor:** Command Processor will support template commanding using JAVA. This support will investigate and implement a solution that will allow the JAVA interface to command with an minimal impact on Command Processor code. The Command Processor GUI will be rehosted in JAVA. (11 LM)
- **Command Processor:** Get results from a user meeting on issue P-3. Create and implement new Command Line Syntax (5 LM)
- **Command Processor:** Implement syntax for additional non LDB ATLAS commands. (6 LM)
- **Command Processor:** Provide 4 additional , one build only, test/debug commands. (1 LM)
- **Command Scripter:** Command Scripter GUI will be rehosted in JAVA. Continue the integration of Command Processor Parse and Build code as new commands are developed and integrated. (1.5 LM)
- **Authentication:** Authentication will refine its requirements and incorporate the authentication requirements of Constraint Management. Support for a system viewer will be developed to allow the authorized user(s) to change user classes for CC W/Ss, FDs and EIM/EICs. CORBA interfacing for User Class assignments will be developed. Further refinement of the Authentication tables will be defined and implemented. (9.5 LM)
- **Command Interface:** Implement additional commanding interface for non LDB/PCM commands. (4 LM)

Documentation

Provide your assessment of the kinds and amount of documentation that must be provided with the Commanding and Command Support CSCI.

Document Type	New/Update	Number of Pages
Requirements and Design Documentation	Update	60
Users Guide: Command Processor	Update	2
Users Guide: Command Scripter	Update	2
Appendix A for Command Processor (Syntax)	Update	50 (100)
Authentication API Interface Document	Update	20
FD CMDing Interface Design Document (HTML)	Update	TBD
Test Procedure	New	120

Table 8 Command Support Documentation**Assumptions**

None.

Open Issues

- Command syntax redefinition. A memo has been written and sent to the users to determine if there is support for command syntax redefinition from the CCMS like syntax to some new format.

2.2 APPLICATION SERVICES (BASIC SERVICES) ASSESSMENT

This section provides an overview description of the changes necessary to Application Services (ASV) Basic Services CSCI for the HMF portion of the Command Thread.

The following work will be performed during Atlas:

- pass command strings from viewers to command parser (via CORBA*)
- supply capability for all HMF required commands as per Appendix B
- support JAVA commanding interface
- add object classes (as required) to support additional commands used at HMF as listed in Appendix B

Applications Services (Basic Services) Assessment

CSC Name	CSC Labor (LM)	% of CSC
SSS	12 (9*)	
SSS	6	
FDS	3	
Total	21 (18*)	
* = if CORBA is used		

Table 9 Application Services Basic Services CSCI Assessment**Basis of estimate**

Estimate is based upon Redstone and Thor experience.

Documentation

Commanding and Command Processor thread documentation is listed in Table 10.

Document Type	New/Update	Number of Pages
Requirements and Design Documentation	X	20
Users Guide		
API Interface Document (web format)	X	30
Interface Design Document (web format)	X	20
Test Procedure	X	50

Table 10 Application Services Documentation**Assumptions**

Test Build will provide via flat files any information necessary for establishing class and object initializations.

Open Issues**2.3 TEST BUILD ASSESSMENT**

The Test Build assessment is contained in the Test Build Thread.

2.4 SYSTEM VIEWER ASSESSMENT

Provide integration support to include the command interface as part of the FD Viewer. The FD Viewer reports FD name, nomenclature, value, etc. The FD Viewer will “grow” or append to itself as more information is needed or if commanding is desired. A pull-down selection menu will be used to display the needed command interface.

Per Design Panel direction, the CCWS Thread will contain all System Viewer Assessments. This assessment is the initial assessment for Command Management. Additional System Viewers will be developed to duplicate command line interfaces on a resource available basis during Atlas.

Command GUI Viewer Work Required

This is a list of work to be accomplished for this function.

- Add command interface to the FD Viewer pull-down selection menu.
- Help design command GUI look-and-feel.
- Integrate command GUI into the FD Viewer.
- Add viewer to change user class and console allocation to System Status viewer
- Add 20 Command viewers

CSC Name	CSC Labor (LM)	% of CSC
Command GUI Viewer	8	
Change User Class	2	

Table 11 System Viewer Assessment**Basis of estimate****Documentation**

Document Type	New/Update	Number of Pages

Document Type	New/Update	Number of Pages

Table 12 System Viewer Documentation**Assumptions.****Open Issues**

None.

3. HWCI ASSESSMENTS

Not applicable.

3.1 HWCI NAME_1 ASSESSMENT

N/A

Work Required

N/A

HWCI Assessment

N/A

4. COTS PRODUCTS DEPENDENCIES

None.

4.1 SW PRODUCTS DEPENDENCY LIST

None.

4.2 HW PRODUCTS DEPENDENCY LIST

None.

APPENDIX A. COMMAND MATRIX

The table on the following pages list CCMS commands, OC tasks, Transients, and Programs. These commands and programs were compiled by searching the CCMS Design Documents and User's Guides for each. Following is a description of each column in the tables:

- COMMAND DESCRIPTION - A description of the command and the proposed syntax.
- NAME - Syntax of command/program
- OPERANDS -
- KEYWORD -
- IMPL - N/Y = Whether existing command should be implemented in RTPS
 - E = Equivalent functionality required
 - D = Duplicate functionality provided elsewhere
- CL - Command Line
- UA - User Application
- SV - System Viewer
 - E = Enter data
 - M = Modify previously-entered command
 - D = Display more than 1 line of response data
 - F = FD Details
- PWR UP - Required for orbiter power up
- API - Application Program Interface
- DEL - Delivery
 - 1 - Juno
 - 2 - Redstone
 - 3 - Thor
 - 4 - Atlas
 - 5 - Titan
 - 6 - Scout
 - 7 - Delta
 - 8 - Saturn
 - 9 - Nova
 - 10 - Venture Star
- MAT - MATURITY
 - Low - function only implemented in one subsystem
 - Med - function implemented in multiple CSCIs/Subsystems, but capability not available across the entire system
 - High - function is implemented nearly everywhere
 - Complete - function is implemented everywhere that it is needed
- HMF - Required for HMF End State
- HMF REQ - Required for HMF Activation

COMMAND DESCRIPTION	NAME	OPERAND S	Key word	IMPL	CL	UA	SV	PWR UP	API	DEL 4=A T	MAT	HMF END	HMF REQ ACT
Status CCT LDB	S FD	FD		Y	Y		19F	Y	Y	3	C		
Status CCT UPLK	S FD	FD		Y	Y		19F	Y	Y	3	C		
Display Electronic Unit Equivalent	DEUE	LDBA		Y	Y	Y	N	Y	Y	3	C		
	DEUE	LDBD		Y	Y	Y	N	N		3			
	DEUE	UPLK		Y	Y	Y	N	N		5			
Command Payload													
LDBA	CPLD	data	load	Y	Y	Y	EM	N	Y	5			
UPLK	CPLD	pl	data	Y	Y	Y	EMD	N		5			
UPLK	CPLD	thruput		Y	Y	Y	EMD	N		5			
UPLK	CPLD	tec	load	Y	Y	Y	EMD	N		5			
UPLK	CPLD	tec	clear	Y	Y	Y	EMD	N		5			
UPLK	CPLD	psp	config	Y	Y	Y	EMD	N		5			
Act/Inh LDB Cmd (Type I)	A/I CMD	RID/ECP	LDBA LDBD	Y	Y		N	N		3	C		
Act/Inh UPLK Cmd (Type I)	A/I CMD	RID/ECP	UPLK	Y	Y		N	N		5			
Act/Inh LDB Cmd (FD)	A/I CMD	FD		Y	Y		N	N		3	C		
Act/Inh UPLK Cmd (FD)	A/I CMD	FD		Y	Y		N	N		5			
Act/Inh LDB Cmd Global	A/I CMD	LDBA LDBD		Y	Y		N	N		3	C		
Act/Inh UPLK Cmd Global	A/I CMD	UPLK		Y	Y		N	N		5			
GMEM Write	GPCC	LDBA LDBD UPLK		Y	Y	Y	EM	N	Y	3	C		
				Y	Y	Y	EM	N		4	H		
				Y	Y	Y	EM	N		5			
Act Data Acquisition (UPLK)	A DA UPLK	OV1xx FRWD	SLOW	Y	Y	Y	N	N		5			
Set Discrete (UPLK)	SET	FD	STAT	Y	Y	Y	N	N					
UPLK Response to Preview Command Data				Y			N	N		9			
UPLK Payload Throughput	PTBC			Y	Y		N	N		5			

COMMAND DESCRIPTION	NAME	OPERAND S	Key word	IMPL	CL	UA	SV	PWR UP	API	DEL 4=A T	MAT	HMF END	HMF REQ ACT
Buffer Clear													
UPLK Change Payload Coeff. Scaling Set	UPSC	FD		Y	Y		N	N		5			
UPLK Pre-formatted 48 Bit	P48B			Y	Y		N	N		5			
UPLK Stop Repeated MDM Single	STRP			Y	Y		N	N		5			
UPLK Two-Stage Buffer Execute	TSBF	execute		Y	Y		N	N		5			
UPLK Two-Stage Buffer Clear	TSBF	CLEAR		Y	Y		N	N		5			
UPLK Word-By-Word Correction	WBWC			Y	Y		N	N		5			
Act/Inh Command Issuance Single (UPLK)	A/I CM	FD		Y	Y	Y	N	N		5			
Act/Inh Command Issuance Global (UPLK)	A/I CM	CPU		Y	Y	Y	N			5			
GMEM Read	GPCC	LDBA		Y	Y	Y	ED	Y	Y	3	C		
	GPCC	LDBD		Y	Y	Y	ED			4	C		
Read MEC Flight BITE	RMEC	flight	bite	Y	N	Y	N	N		4	C		
Read MEC Cap Volts	RMEC	cap	volts	Y	N	Y	N	N		4	C		
Read MEC Pic	RMEC	pic		Y	N	Y	N	N		4	C		
Read MEC Preflight BITE	RMEC	preflight	bite	Y	N	Y	N	N		4	C		
Command MEC	CMEC	master	reset	Y	N	Y	N	N		4	C		
	FD	wrap	word	Y	N	Y	N	N		4	C		
		SPCV	enable	Y	N	Y	N	N		4	C		
GOAL Only		MEC	CRIT	Y	N	Y	N	N		4	C		
Read BITE Status Register	CBTU	RBSR	MDM	Y	Y	Y	N	Y	Y	3	C		
			FLX	Y	Y	Y	N		Y	3	C		
			PCM	Y	Y	Y	N		Y	5			
			PDI	Y	Y	Y	N		Y	5			
			SCA	Y	Y	Y	N		Y	4	M		
			MEC	Y	Y	Y	N		Y	4	M		
			EIU	Y	Y	Y	N		Y	4	M		
Load BITE Status Register	CBTU	LBSR	MDM	Y	Y	Y	N	Y	Y	3	C		

COMMAND DESCRIPTION	NAME	OPERAND S	Key word	IMPL	CL	UA	SV	PWR UP	API	DEL 4=A T	MAT	HMF END	HMF REQ ACT
			FLX SCA	Y Y	Y Y	Y N	N		Y Y	3 3	C C		
Perform BITE Test 1	CBTU	BT1	MDM FLX	Y Y	Y Y	Y N	N	Y	Y Y	3 3	C C		
Perform BITE Test 2	CBTU	BT2	MDM FLX	Y Y	Y Y	Y N	N	Y	Y Y	3 3	C C		
Perform BITE Test 3	CBTU	BT3	MDM FLX	Y Y	Y Y	Y N	N	Y	Y Y	3 3	C C		
Perform BITE Test 4	CBTU	BT4	FD	Y	Y	Y	N N	Y	Y	3	C		
MDM Raw BITE Test 4	CBTUR	BT4	FD	Y	Y	Y	N	Y	Y	3	C		
Perform Wrap	CBTU	WRAP	MDM FLX SCA MEC EIU	Y Y Y Y Y	Y Y Y N	Y Y Y N	N	Y	Y Y Y Y Y	3 3 3 4 4	C C C H H		
CPRO Read Onboard Values MDM Read MDM Read PROM Contents MDM Read via PROM PCMMU/PDI Read	READ READ READ READ	FD BTU BTU BTU	#word ADDR VIA ADDR	Y Y Y Y	Y Y Y Y	Y Y Y Y	DM DM DM DM	Y Y Y Y	Y Y Y Y	3 3 3 5	C C C		
Set MDM Discrete (LDB)	SET FD	STATE	delay	Y	Y	Y	N	Y		3	C		
Act/Inh Command Issuance Single (LDB)	A/I CM	FD		Y	Y	Y	N	Y		3	C		
Act Data Acquisition (LDB)	A DA LDBA	DIO GPC	1/2	Y	Y	Y	N	Y	Y	3	C		
Apply Analog (LDB)	APPL	FD	Value	Y	Y	Y	N	Y		3	C		
Issue Digital Pattern (LDB)	ISSU	FD	Value	Y	Y	Y	N	Y		3	C		
LDB Control	GPCC	LDBC		Y	Y	Y	E	Y	Y	3	C		
T-20 Minute Patch (File)	\$PT20			Y	Y		?EM	N	Y				
OCF Interface (OC Version)	OCU			Y				N	Y	5			
Orbital Computational Facility				Y			?		Y	5			

COMMAND DESCRIPTION	NAME	OPERAND S	Key word	IMPL	CL	UA	SV	PWR UP	API	DEL 4=A T	MAT	HMF END	HMF REQ ACT
Shuttle Memory Load and Dump													
T-20 Minute Compare	OCFI	T-20MC		Y	Y	Y	?DM	N	Y	5			
G-MEM Dump	OCFI	GPCD		Y	Y	Y		N	Y	5			
G-MEM Comp	OCFI	GPCC		Y	Y	Y		N	Y	5			
Dump GPC Tape	OCFI	GPCTD		Y	Y	N		N	Y	5			
Comp GPC Tape	OCFI	GPCTC		Y	Y	N		N	Y	5			
Dump BFS Tape	OCFI	BFSTD		Y	Y	N		N	Y	5			
Comp BFS Tape	OCFI	BFSTC		Y	Y	N		N	Y	5			
DEU Memory Dump	OCFI	DEUxD		Y	Y	Y		N	Y	5			
DEU Memory Compare	OCFI	DEUxC		Y	Y	Y		N	Y	5			
Note: x in DEUx = DEU #													
PCM Dump-TF64	OCFI	TF64		Y	Y	Y		N	Y	5			
PCM Compare-TF64	OCFI	TF64		Y	Y	Y		N	Y	9			
PCM Dump-TF128	OCFI	TF128		Y	Y	Y		N	Y	5			
PCM Compare-TF128	OCFI	TF128		Y	Y	Y		N	Y	9			
PCM Dump-PCMOI (ram)	OCFI	PCMOI		Y	Y	Y		N	Y	5			
Patch Main Mem. Via LDB	OCFI	GPCPL		Y	Y	Y		N	Y	5			
Patch Main Mem. Via UPLK	OCFI	GPCPU		Y	Y	N		N	Y	6			
Cap. 1-Dump MM 1	OCFI	MMU1D		Y	Y	Y		N	Y	5			
Cap. 1-Compare MM 1	OCFI	MMU1C		Y	Y	Y		N	Y	5			
Cap. 1-Dump MM 2	OCFI	MMU2D		Y	Y	Y		N	Y	5			
Cap. 1-Compare MM 2	OCFI	MMU2C		Y	Y	Y		N	Y	5			
Cap. 2-Dump MM 1	OCFI	MMU1D		Y	Y	Y		N	Y	5			
Cap. 2-Compare MM 1	OCFI	MMU1C		Y	Y	Y		N	Y	5			
Cap. 2-Dump MM 2	OCFI	MMU2D		Y	Y	Y		N	Y	5			
Cap. 2-Compare MM 2	OCFI	MMU2C		Y	Y	Y		N	Y	5			
Cap. 1-Dump MM Tape	OCFI	MMTD		Y	Y	N		N	Y	TBD			
Cap. 1-Compare MM Tape	OCFI	MMTC		Y	Y	N		N	Y	TBD			
Cap. 1-MM 1 Load/No	OCFI	MM1L		Y	Y	Y		N	Y	5			
Ver.	OCFI	MM1V		Y	Y	Y		N	Y	5			
Cap. 1-MM 1 Load/Verify	OCFI	MM2L		Y	Y	Y		N	Y	5			
Cap. 1-MM 2 Load/No	OCFI	MM2V		Y	Y	Y		N	Y	5			

COMMAND DESCRIPTION	NAME	OPERAND S	Key word	IMPL	CL	UA	SV	PWR UP	API	DEL 4=A T	MAT	HMF END	HMF REQ ACT
Ver.													
Cap. 1-MM 2 Load/Verify	OCFI	MM1P		Y	Y	Y		N	Y	5			
Cap. 2-MM 1 Patch	OCFI	MM2P		Y	Y	Y		N	Y	5			
Cap. 2-MM2 Patch	OCFI	RPL1		Y	Y	Y		N	Y	5			
List RPL MM 1	OCFI	RPL2		Y	Y	Y		N	Y	5			
List RPL MM 2	OCFI	UPFTD		Y	Y	N		N	Y	5			
Tape Dump UPF Format	OCFI	OCFTD		Y	Y	N		N	Y	5			
Tape Dump non-UPF Format	OCFI	FDRxy		Y	Y	Y		N	Y	5			
Block II FDR Dump of EIU	OCFI	EITDxy		Y	Y	Y		N	Y	5			
Block II SSME Mem. Dump	OCFI	EITCxy		Y	Y	Y		N	Y	5			
Block II SSME Mem.Compare	OCFI	EIULxy x=EIU # y=EC # above		Y	Y	Y		N	Y	5			
Block II SSME Load	OCFI	EITTD		Y	Y	N		N	Y	5			
Block II SSME Tape Dump	OCFI	EITTC		Y	Y	N		N	Y	5			
Block II SSME Tape Compare	OCFI	DET TD		Y	Y	N		N	Y	5			
DEU Tape Dump	OCFI	DET TC		Y	Y	N		N	Y	5			
DEU Tape Compare													
SSME Read MEM	GPCC	SSME		Y	Y	Y	EMD	N	Y	5			
SSME Write MEM	GPCC	SSME		Y	Y	Y	EM	N	Y	5			
TCS Cancel Operator	CANCEL	NAME		Y	Y	Y	N	N	Y	5			
TCS Resume Operator	RESUME	NAME		Y	Y	Y	N	N	Y	5			
TCS Sequence Initiate	TCSS	NAME		Y	Y	Y	N	N	Y	5			
TCS Stop Operator	STOP	NAME		Y	Y	Y	N	N	Y	5			
TCS Text Operator	TEXT O/G	text		Y	Y	Y	N	N	Y	5			
ECP Cancel Operator	CANCEL	NAME		Y	Y	Y	N	N	Y	5			

COMMAND DESCRIPTION	NAME	OPERAND S	Key word	IMPL	CL	UA	SV	PWR UP	API	DEL 4=A T	MAT	HMF END	HMF REQ ACT
LDB SRB MDM Lock/Unlock	LOCK UNLOCK	FD FD	1/2 1/2	Y Y	Y Y	Y N	N N	N N	Y Y	5 5			
Write SIO Devices	WRITE	MTU		Y	N	Y	N			4	M		
Read SIO Devices													
Read Star Tracker	READ	star trac		Y	Y	N	D	N	Y	5			
Read IMU	READ	IMU		Y	Y	N	D	N	Y	5			
Read EIU	READ	EIU		Y	Y	N	D	N	Y	5			
Read TACAN	READ	TACAN		Y	Y	N	D	N	Y	5			
Read MSBLS	READ	MSBLS		Y	Y	N	D	N	Y	5			
Read MTU	READ	MTU		Y	Y	Y	D	Y	Y	4		M	
Read ADTA	READ	ADTA		Y	Y	N	D	N	Y	5			
Read GPS	READ	GPS		Y	Y	N	D	N	Y	5			
Dump/Load Onboard Regs. (load Reg to itself)???	GPCC GPCC	LDREG DPREG		Y Y	Y Y	Y Y	?ED ?EM D	N N	Y Y	4 4	M M		
ECP Initiate	GPCC	NAME		Y	Y	Y	D	N	Y	5			
Explicitly Coded Program	GPCC GPCC GPCC GPCC GPCC GPCC GPCC	DDC RFG FRT MAT BFD BFM ACTI		Y Y Y Y Y Y Y	Y Y Y Y Y Y Y	Y Y Y Y Y Y Y	ED ED ED ED ED ED ED	N N N N N N N	Y Y Y Y Y Y Y	5 5 5 5 5 5 5			
Launch Sequence (GOAL only)				Y		Y	N	N	Y	5			
LDB SRB Multiple Lock (GOAL only)				Y		Y	N	N	Y	5			
Perform Master Reset	CBTU	MR	MDM FLX MEC EIU	Y Y Y Y	Y Y Y Y	Y Y Y Y	N N N N	Y N Y N	Y Y Y Y	3 3 4 4	C C H H		
Perform EIU Stat Override	CBTU	SO	EIU	Y	Y	Y	N	N	Y	4	M		
Read PDI Switch Matrix	CBTU	RPSM	PDI	Y	Y	Y	N	N	Y	5			
LDB Text	TEXT	O/G	hello	Y	Y	N	N	N	Y	3	C		
Status Analog FD (GSE,	S FD	FD		Y	Y	N	Y	Y	Y	3	C		

COMMAND DESCRIPTION	NAME	OPERAND S	Key word	IMPL	CL	UA	SV	PWR UP	API	DEL 4=A T	MAT	HMF END	HMF REQ ACT
PCM)													
Status Discrete FD (GSE, PCM)	S FD	FD		Y	Y	N	Y	Y	Y	3	C		
Status Dig. Pattern FD (GSE, PCM)	S FD	FD		Y	Y	N	Y	Y	Y	3	C		
Act/Inh Command Issuance Global (LDB)	A/I CM	CPU		Y	Y	Y	N	Y		3	C	Y	Y
Change Station ID/Chg Block Seq No. Chk Mode	C SN			Y	Y				N	N			
Change Resp. Console (LDB/UPLK)	C CO	FD	CPU	E	Y	Y	Y	N		4	H		
Change Responsible Console	C CO	RID/ECP	CPU	E	Y	Y	Y	N		4	H		
Act/Inh POCC Preview	A/I PV			Y	Y			N		9			
POCC Preview Issue/Abort	\$PREVU			Y	Y			N		9			
POCC Preview Command Data	\$PREVU			Y	Y	Y	Y	N		9			
Power Metering Compressed Data Retrieval	SPMCDR			N	Y			N		9			
Continue Failed Reactive Sequence	CORS			EIM	N	Y	N	Y		4		Y	Y
Restart React. Sequence At Beginning	SRRS			EIM	N	Y	N	Y		4		Y	Y
Retry Failed Reactive Sequence	RTRS			EIM	N	Y	N	Y		4		Y	Y
Status Inhibited FDs	SIFD, SIF			Y	Y	Y	Y	N		4		Y	Y
Change Data Health by List	C DHL	LNAME	F/W.... .	NEW	Y		Y	N		4	C	Y	
Change Data Health by FD	C DHFD	FDs	F/W.... .	NEW	Y		Y	Y		4	C	Y	
Change Display Attributes	C DA FD	CLASS	Value	NEW	Y		Y	Y		4	C	Y	
CDT Hold	CDTH	value		Y	Y	Y	N	N		4	M	Y	
Apply Pseudo Analog	APPL	FD	value	Y	Y	Y	F	Y		4	C	Y	Y
Set Pseudo Discrete	SET	FD	state	Y	Y	Y	F	Y		4	C	Y	Y

COMMAND DESCRIPTION	NAME	OPERAND S	Key word	IMPL	CL	UA	SV	PWR UP	API	DEL 4=A T	MAT	HMF END	HMF REQ ACT
Issue Pseudo Digital Pattern	ISSU	FD	pattern	Y	Y	Y	F	Y		4		Y	
Set Discrete UPLK	SET	FD	ST	Y	Y	Y	F	Y		5			
Act/Inh Change Processing Global	A/I CP	CPU	RESE T	Y	Y	Y	N	Y		3	C	Y	Y
Act/Inh Change Processing Single	A/I CP	FD		Y	Y	Y	N	Y		3	C	Y	Y
Act/Inh Command Issuance Global (GSE)	A/I CMD	CPU		Y	Y	Y	N	Y		3	C	Y	Y
Act/Inh Command Issuance Single (GSE)	A/I CMD	FD		Y	Y	Y	N	Y		3	C	Y	Y
Inh. Data Acquisition CPU	I DA	CPU		Y	Y	Y	N	Y	N	3	C	Y	Y
Act. Data Acquisition (GSE)	A DA	GSxA	FV L	Y	Y	Y	N	Y	N	3	C	Y	Y
Act. Data Acquisition (PCM)	A DA	CPU	FID	Y	Y	Y	N	Y	N	3	C	Y	Y
Act./Inh. Data Acq. (FD)	A/I	DA	FD	Y	Y	Y	N	Y	Y	3	C	Y	Y
Act. Data Acq. CSGW	A/I	CS1A		new	Y	Y	N	Y	Y				
Issue Digital Pattern (CSGW)	ISSU	FD	value	Y	Y		F	Y			C		
Act./Inh. Data Processing	A/I PR	CPU		Y	Y	Y	N	Y	N	3	C	Y	Y
		FD		Y	Y	Y	N	Y	N	3	C	Y	Y
Act./Inh. HIM Polling HIM	A/I HI #	CPU	SCAN	Y	Y	Y	N	Y		3	C	Y	Y
Terminate	TERM	CPU		Y	Y		N	Y		3	C	Y	Y
Apply Analog (GSE)	APPL	FD	value	Y	Y	Y	F	Y		3	C	Y	Y
Change EU Coefficients	C EUC	FD		Y	Y		F	Y		3	C	Y	Y
Change Hardware Address	C HA	FD	ADR	Y	Y		N	Y		3	C	Y	Y
Change Sample Rate	C RA	FD	RATE	Y	Y	Y	F	Y		3	C	Y	Y
Issue Digital Pattern (GSE)	ISSU	FD	value	Y	Y		F	Y		3	C	Y	Y
Read EU Coefficients	R EUC	FD		New			F	Y		3	C	Y	Y
Read GSE HIM Output Function Designator ANALOG DISCRETE DIGITAL PATTERN	R FD	FD		New	Y	Y	D	Y		3	C	Y	Y
										3	C	Y	Y
										3	C	Y	Y
										3	C	Y	Y

COMMAND DESCRIPTION	NAME	OPERAND S	Key word	IMPL	CL	UA	SV	PWR UP	API	DEL 4=A T	MAT	HMF END	HMF REQ ACT
Set Discrete (GSE)	SET	FD	STAT E	Y	Y		F	Y		3	C	Y	Y
Change DECOM to Area Assign.	C DC	OIFID	AREA #	Y	Y			N		3	C		
Change Digital Filter Constant	C FC	FD	CON.	Y	Y			N		3	C		
Change PCM Bit Sync Bit Error Count	C PSB	CPU	count	Y	Y			Y		3	C		
Change PCM Source Select (PCM)	PCMS	CPU		Y	Y			Y		3	C		
Change PCM Source Select (UPLK)	PCMS	UPLK		Y	Y			Y		5			
Switch Scan	SWSCAN			Y		?	D	Y		3	C	Y	Y
Act/Inh Exception Monitor Act/Inh GOAL Exception Assert Constraint (ANAL.) Assert Constraint (DISC.) Assert Constraint (DIG. PTN.) Alter Constraint (ANAL.) Alter Constraint (DISC.) Alter Constraint (DIG. PTN.) Release Constraint	A/I SX A/I GX	FD FD		E E		N N N N N N N Y	Y Y Y Y Y Y Y Y	Y Y Y Y Y Y Y Y	Y Y Y Y Y Y Y Y	3 3 3 3 3 3 3 3	C C C C C C C C	Y Y Y Y Y Y Y Y	Y Y Y Y Y Y Y Y
A/I HIM Test on a HIM	A/I HT	HIM #	GSxA	Y	Y	Y	N	Y		3	C	Y	
Act/Inh HIM Testing Command on GW ■ Act/Inh Only HT ■ Act/Inh Only Switch Scan ■ Act/Inh HT and Sw. Scan	A/I HT A/I HT A/I HT	CPU CPU CPU	SCAN ALL	Y Y Y	Y Y Y	Y Y Y	N N N	Y Y Y		3 3 3	C C C	Y Y Y	
A/I HIM Test on FD	A/I	HT	FD	Y	Y	Y	N	Y		3	C	N	
Swap CPUs	SWAP	LNAME	LNAME	NEW	Y								

COMMAND DESCRIPTION	NAME	OPERAND S	Key word	IMPL	CL	UA	SV	PWR UP	API	DEL 4=A T	MAT	HMF END	HMF REQ ACT
			E										
CTOC Retrieval	SPCTOC			Y	M		SDC	Y		4	C	Y	Y
Init SCID	I SCID	<SCID>	CPU	Y			N	Y		4	C	Y	Y
Init TCID	I TCID	<TCID>	CPU	Y			N	Y		4	C	Y	Y
Activate Platform	ACTIVATE	<CPU>		Y			N	Y					
Load Operations	MCPREL D			E			Y	Y		4	C	Y	Y
Log Tape Raw Dump	SPRAW			Y			Y	N		?		Y	Y
Measurement & Command Retrieval	SPMACR			Y	M		SDC	Y		4	C	Y	Y
Present Value Of FD	PVO			Y	Y		N	Y		3	C	Y	Y
Request Data Reduction	SPRDR			E	M		Y	N				Y	Y
RTPS Installation	INST			E			Y	Y		4	C	Y	Y
RTPS Load and Initialization	CLAI			E			Y	Y		4	C	Y	Y
RTPS Termination	TERM			E			Y	Y		4	C	Y	Y
System Status	SYST			Y	Y		D	Y		4	C	Y	Y
BFL Retrieval	SPBLOK			E	M		SDC	Y		4	C	Y	
Change In Configuration Indicator	C IC			E	Y		N	Y				Y	
Change Reference Designator	REFD			E	Y		?	N				Y	
Command File	CMD			Y	Y		E	N				Y	
Act/Inh All Alarms	A/I AA			Y	Y	Y	N	Y				Y	
Act/Inh Single Alarm	A/I AL			Y	Y	Y	N	Y				Y	
Act/Inh Operational Mode	A/I OP	CPU		E	Y		N					Y	
Act/Inh System Test	A/I ST			Y	Y		N					Y	
Allow/Inh Keyboard Perform Of Utilities	A/I KU	CPU		Y	Y		N	Y				Y	
Allow/Inh Remote S/W Perform Of Utilities	A/I RU	CPU		Y	Y		N	N				Y	
Allow/Inhibit Redundant Switch	A/I RS	CPU		Y	Y		N	?				Y	
Alter CPU Memory	ALTRME	CPU		Y	Y		MD					Y	

COMMAND DESCRIPTION	NAME	OPERAND S	Key word	IMPL	CL	UA	SV	PWR UP	API	DEL 4=A T	MAT	HMF END	HMF REQ ACT
	M												
Alter CVT	ALTRCV T	FD		Y	Y		MD					Y	
Alter Disk	ALTRDS K	CPU		E	Y		MD					Y	
Alter Gateway Memory	ALTRGW	CPU		Y	Y		MD					Y	
Application Library List Programs	PRTLIB			E	Y		N	Y				Y	
Arithmetic Expression Evaluator	CALC	COTS		E								Y	
CCMS Configuration Update	UPDATE			E			Y	Y				Y	
Change RCU Number	C RC			E	Y		N					Y	
Checkpoint Non Multi-Format Regular/Demand Update Multi-Format Regular/Demand Update Update LDB Safing Seq. Demand Update Complete Update GSE Polling Tables Stop Check-Point Received Start Check-Point Processor Process Demand Update Request Stop Check-Point Processor				Y	Y	Y	DE	N				Y	
Checkpoint Restart (User Application Interface)				Y		Y	N					Y	
Act./Inh. SDC Logging	A/I SDC	NODE		Y			N						
Compute	COMPUT E			Y	Y		DE					Y	
Configuration Status	S CS	CPU		Y								Y	
Console Activity Trace	SPCAT			E	M		SDC	Y				Y	

COMMAND DESCRIPTION	NAME	OPERAND S	Key word	IMPL	CL	UA	SV	PWR UP	API	DEL 4=A T	MAT	HMF END	HMF REQ ACT
Convert GMT to Hex	GMTHEX			Y	Y		N	N				Y	
Convert Hex to GMT	HEXGMT			Y	Y		N	N				Y	
Copy/Verify Operating System	COPY	COTS		E	Y							Y	
Date	DATE			Y	Y							Y	
Delete Library Entry	DELENT			E	Y		E					Y	
Display CDBFR	DPLYCV T	FD		E	Y		D					Y	
Display Cpu Memory	DPLYME M	CPU		E	Y		D					Y	
Display Disk	DPLYDS K	CPU		E	Y		D					Y	
Display Gateway Memory	DPLYGW	CPU		Y	Y		D					Y	
Display/Alter On-Line Data Bank	OLDB			Y	Y		D					Y	
Dump CDBFR	DUMPCV T	FD		Y	Y							Y	
Dump Cpu Memory	DUMPM EM	CPU		E	Y							Y	
Dump Disk	DUMPDS K	CPU		E	Y							Y	
Dump Gateway Memory	DUMPG W	CPU		Y	Y							Y	
FIFO Bulk Disk Test	DPFBDT			E	Y		D					Y	
GOAL Procedure Status	GOAL	COTS		E	Y		N					Y	
Hardware Monitor	HWMON			Y	Y		D					Y	
Monitor CDBFR	MONCV T	FD		E	Y		D					Y	
Monitor CPU Memory	MONME M	CPU		E	Y		D					Y	
Monitor Gateway Memory	MONGW	CPU		Y	Y		D					Y	
Operator Communications Retrieval	SPOPCR			E	M		?					Y	
ORT BSD PBIC Test	DPBSD			E								Y	

COMMAND DESCRIPTION	NAME	OPERAND S	Key word	IMPL	CL	UA	SV	PWR UP	API	DEL 4=A T	MAT	HMF END	HMF REQ ACT
ORT Master Driver	DPLORT			E								Y	
Print Load Map	MAP	CPU		Y	Y		D					Y	
Pseudo/System FD Status	PSS	FD		Y	Y		D					Y	
Recovery Dump Retrieval	SPRCVE			E	M		?					Y	
Remote CPU Memory Dump	BTDUMP	CPU		N									
Search CDBFR	SRCHCV T	FD		Y	Y		D					Y	
Search Gateway Memory	SRCHGW	CPU		Y	Y		D					Y	
Status On-Line Data Bank	STOLDB			Y	Y		D					Y	
TCID Information Formatted	TCID			Y	Y		D					Y	
Text Editor	T			Y	Y		E					Y	
Write Meas. Values & FEP Exceptions	CVTW	FD		Y	Y		E					Y	
Application Procedure Control		COTS		Y	N							Y	
ORT 50KB Test Item 1	DP150K			E								Y	
ORT BSD PBIC Item 3	DP3BSD			E								Y	
ORT Bulk Disk Test Item 4	DP4BD			E								Y	
ORT Bulk Memory Test Item 1	DP1BM			E								Y	
ORT Bulk Tape Test Item 4	DP4BT			E								Y	
ORT CDBFR Interface Test Item 1	DP1CDB			E								Y	
ORT Console Subsystem Test Item 5	DP5CON			E								Y	
ORT CPU Presence Test Item 2	DP2CDB			E								Y	
ORT CRT Test Item 4	DP4CRT			E								Y	
ORT DG Test Item 1	DP1DG			E								Y	
ORT FIFO Address Matrix Test Item 3	DP3FAM			E								Y	
ORT Flt.Point Option Plane Test Item 4	DP4FLT			E								Y	
ORT Line Printer Test Item 4	DP4LPT			E								Y	

COMMAND DESCRIPTION	NAME	OPERAND S	Key word	IMPL	CL	UA	SV	PWR UP	API	DEL 4=A T	MAT	HMF END	HMF REQ ACT
ORT Local Driver Item 4	DP4DRC			E								Y	
ORT MHD Test Item 1	DP1MHD			E								Y	
ORT MTU Logging Test Item 3	DP3MTU L			E								Y	
ORT MTU Test Item 3	DP3MTU			E								Y	
ORT P/P Subsystem Test Item 5	DP5PP			E								Y	
ORT P/P Test Item 1	DP1PP			E								Y	
ORT PDR/Spa Logging Test Item 3	DP3PDR			E								Y	
ORT PDR/Spa Subsystem Test Item 5	DP5SPA			E								Y	
ORT PFP Test Item 1	DP1PFP			E								Y	
ORT PIT Test Item 1	DP1PIT			E								Y	
ORT RTIF Test Item 3	DP3RTI			E								Y	
ORT Safing Test Monitor	DPSAFE			E								Y	
ORT Standard Tape Test Item 4	DP4STT			E								Y	
ORT TCG Logging Test Item 3	DP3TCG L			E								Y	
ORT TCG Test Item 3	DP3TCG			E								Y	
ORT Test Tape Routine	DPTAPE			E								Y	
ORT TMDS Test Item 3	DP3TMD			E								Y	
ORT VDA Test Item 3	DP3VDA			E								Y	
Zero CDBFR	ZCDB			N								Y	
Change Resp. Console (GSE/PCM)	C CO	FD	CPU	E	Y	Y	Y					-	
50 Kb Test S/W	MCTPD M			N									
Act/Inh Commit Criteria Notification	A/I CC			N									
Act/Inh Control Logic Exception Notification	A/I CX			N									
Act/Inh EMON Alarm	A/I EN			Y	Y	Y	N	N					

COMMAND DESCRIPTION	NAME	OPERAND S	Key word	IMPL	CL	UA	SV	PWR UP	API	DEL 4=A T	MAT	HMF END	HMF REQ ACT
Notification													
Act/Inh ESA Use of SPA Utilities	A/I ES			N									
Act/Inh Fire Alarm Notification				N									
Act/Inh Fire Alarm Notification	A/I FN			N									
Act Frame Logging	A FL	CPU		Y	Y								
Inh Frame Logging	I FL	CPU		Y	Y								
Act/Inh Fuel Cell Simulation	A/I FS			N									
Act/Inh Inhibit Serial Dump Processing	A/I SD			N									
Act/Inh Linearization	A/I LI			N									
Act/Inh PCM Sync Message Routing	A/I SR	?????		E	Y								
Act/Inh Polling On An RTU	A/I RT			N									
Act/Inh Preview Command	A/I PV			Y	Y								
Act/Inh SDC Logging	A/I CD			N									
Act/Inh SMW Routing	A/I SM			N									
Act/Inh SPA to issue LDB commands	A/I SP			N									
Act/Inh Static Dump				N									
Allow CDT Control	TCGA	CPU		Y	Y		N	N					
Allow MET Control	MTUA	CPU		Y	Y		N	N					
Alter Bulk Memory	ALTRBL K			N									
Alter CDBFR	ALTRCV T			Y	Y		DE						
Alter Memory In OC Task	ALTROC			N									
Application Debug Software	ADS			E	Y		?						
Avionics Diagnostics	AVDIAG			Y	Y				Y				
Avionics Diagnostics Loader	AVLOAD			Y	Y		?						
Buffer Scan Diagnostic PBIC Control	BSD			N									

COMMAND DESCRIPTION	NAME	OPERAND S	Key word	IMPL	CL	UA	SV	PWR UP	API	DEL 4=A T	MAT	HMF END	HMF REQ ACT
Buffer Stress Test Monitor	CSD			N									
Build Control Logic File	BLDCL			N									
Build Tailored Buffer Map	BMAP			E	Y								
Bulk Disk Clear/Copy/Verify	BULK			N									
Bulk Disk Installation	BDINST			N									
Bulk Disk Preload	BDPRELD			N									
CDBFR Snapshot Retrieval ()	SPSNPR			N									
CDT Count	CDTC			Y	Y	Y	N	N					
CDT Hold	CDTH			Y	Y	Y	N	N					
Change Analog Trace	PPCHTR			Y	Y	Y							
Change Commit Criteria Console	C CC			N									
Change Constraint Limits				D									
Change EM Limits	C EL			N									
Change Forward Link	C FL			N									
Change Fuel Cell Aging Constant	C FS			Y	Y		N	N					
Change Linearization Curve Pointer	C LI			N									
Change Physical Port	C PP			E	Y		N	N					
Change SCA Bus Assignment	C BA			N									
Change Significant Change Value	C SI			N									
Change Spacelab Coupler	C SL			N									
CITE POCC Interface Retrieval	SPCPIR			M	Y		?						
Command File Executor - OC Task	CMDOC			N									
Compressed Data Point Retrieval	SPMCDP			N									
Compressed Data Summary	SPMDSR			N									

COMMAND DESCRIPTION	NAME	OPERAND S	Key word	IMPL	CL	UA	SV	PWR UP	API	DEL 4=A T	MAT	HMF END	HMF REQ ACT
Retrieval													
Computer Assisted Instruction	CAI			N									
Configuration Update Allow/Inhibit	CSUBUP			N									
Copy GOAL Disk File	CGDF			E	Y		N	N					
C PRO Control Video Switch ()	VSW			N									
C PRO Status Video Switch ()	VSS			N									
C PRO Video Switch Set/Reset ()	VSO			N									
Create Disk Library	BLDLIB			N									
Disk Initialization	MHDCLR			N									
Display Bulk Memory	DPLYBL K			N									
Display DG Page/PFP Presentation	DGPG			N									
Display Memory (As Application Pgm)	DPLYOC			N									
Display Monitor	DMON			N									
Display Skeleton	DPLYSK E			N									
DIT Control Program	DITCP			N									
DIT Monitor	DITMON			N									
Dump Bulk Disk	DUMPBD			N									
Dump Bulk Memory	DUMPBL K			N									
Dump Bulk Tape	DUMPBK T			N									
Dump Halted Gateway Memory	UTFEPD			N									
Dump Library Entry	DUMP			N									
Dump Memory (As Application Pgm)	DUMPOC			N									

COMMAND DESCRIPTION	NAME	OPERAND S	Key word	IMPL	CL	UA	SV	PWR UP	API	DEL 4=A T	MAT	HMF END	HMF REQ ACT
Dump OC TWA Partition ()	STTWAO C			N									
Dump TR Library Entry	TRDUMP			N									
File Card-Images To Cartridge Disk	SPCARD			N									
Firing Room Configuration Verify	VERIFY			N									
Global Buffer Map Status Report	GBSR			E	Y		Y						
GMT Sync	GMTS			TBD									
GOAL IC Operator Dump	GLDUMP			E			Y						
GOAL IC Operator Dump At SPA	GLSPA			N									
Goal Procedure Status	GPST			N									
Goal System Status	GSYS			N									
Inhibit (Level G Version)	I			N									
Initialize Timer	MTUI			TBD									
Initialize Timer	TCGI			TBD									
LDB/UPLK SPA Allow/Inh Type I	A/I SP	RID	CPU	E	Y		N	N					
LDB/UPLK Command Retrieval	SPLDUP	SDC		M	Y		?	Y					
LDT Status	LS			N									
Level G Stop Routine	GSTOP			N									
Library	LIBRARY			E	Y		D						
List Task Control Block Activity	LIST			E			Y						
Load File Patcher	PATCHER			N									
Merge Library Entry	MRGENT			E	Y		Y						
Message Broadcast	MSGB			N									
MET Count	METC			Y	Y	Y	N	N					
MET Hold	METH			Y	Y	Y	N	N					
OC Time Crit. Patcher	OCFTCP			N									

COMMAND DESCRIPTION	NAME	OPERAND S	Key word	IMPL	CL	UA	SV	PWR UP	API	DEL 4=A T	MAT	HMF END	HMF REQ ACT
OCF Tester Dump	OCFTST			N									
Patch Data Sets	PATCH			E	Y		?						
PBIC RAM Read	RAMR			N									
PCM Source Select	PCMS	CPU		Y	Y		N	N					
PDR Tape Copy ()	SPTCOP			N									
Plot Spa Data	SPP			E	Y	Y	?						
Plotting Measurement Data	PP			Y	Y	Y	Y	Y		4	C		
Print & Plot Compressed Data	PPMLOT			N									
Print Bad Sector table	PBST			N									
Print One File	PRINT			N									
Process Plot Playback Data	PSP			E			?						
Pseudo FD Descriptor Restore	SPPSDR			N									
PVO For Time Homogeneous Data Set	PV			Y	Y		D	Y		4	C		
Range Safety Retrieval	SPRSCR	SDC		M	Y		?						
Rebuild Control Logic Sequence	CSRBCS			N									
Recall Prompts	RECALL			N									
Remote Plot Request	PPRDR			E			Y	N					
Reset Pending Commands To Hold Or Count	CDTR			Y	Y	Y	N	N					
Reset Pending Commands To Hold Or Count	METR			Y	Y	Y	N	N					
Restrict CDT Control	TCGR			Y	Y	N	N	N					
Restrict MET Control	MTUR			Y	Y	N	N	N					
Return Library Information	INFO			N									
Search CPU Memory	SRCHMEM	CPU		E	Y		D						
Select Maximum Channel Size	PPSIZE			Y									
Set CDT Time	CDTS			Y	Y	Y							

COMMAND DESCRIPTION	NAME	OPERAND S	Key word	IMPL	CL	UA	SV	PWR UP	API	DEL 4=A T	MAT	HMF END	HMF REQ ACT
Set MET Time	METS			Y	Y	Y							
Set Uplink Activity Indicator	UACT			Y	Y	Y	N	N					
Shuttle Memory Retrieval	SPSMR			M	Y		N	N					
Single Address Retrieval	SPSAR	SDC		M	Y		?						
Skeleton Build	SKLBLD			N									
Snap Registers	SNAP			N									
SPA Operating System Compare Utility	SPOSCM			N									
SPA Retrieval Utility	SPAUTL			N									
SPC Buffer Clear	CSPC	maj. F		Y	Y	Y	N	N					
Spooler (Print Data) Control	SPOOL			E									
Status Goal Tables ()	STGT			N									
Status Hot Spares	S HS			N									
Switch Active Time Source	TCGS			TBD									
Switch Timing To External	MTUE			TBD									
Switch Timing To External	TCGE			TBD									
Tape Compression	SPMCPT			N									
Tape Copy Verify ()	SPTCPV			E									
Tape Reassignment ()	SPTASW			N									
Tape Status/Reset ()	SPSTST			N									
Task Status Program ()	STAT			Y				Y					
TCID Save/Restore ()	SPTCSR			N									
TCID Save/Verify ()	SPTCSV			N									
Terminate Timer	MTUT			TBD									
Terminate Timer	TCGT			TBD									
Test Operations Change	TOC			M	M		M						
Time Status	TIME			N									
Timing and Distribution PBIC Control	TMDS			N									
Transient Memory Dump Formatter	STTWA			N									
Video Switch Control	VSWI			N									
Video Switch Utility ()	UTVSWI			N									
Checkpoint	FEPCPR			Y	Y	Y	Y						

Appendix B

Commanding Test Procedure

DESCRIPTION/PROCEDURE	EXPECTED RESULTS				SMSG #
APPLY/SET/ISSUE FDs					
READ HIM OUTPUT CARDS					
1. Enter I HT GS1A then click SEND then click SEND	I HT SUCCESSFUL - GW GS1A				401
2. Enter SET DO-01 OFF then click SEND then click SEND	SET SUCCESSFUL - DO-01	W xxxx	I OFF		415
3. Enter R DO-01 then click SEND	(expect = OFF)				
4. Enter SET DO-01 ON then click SEND then click SEND	SET SUCCESSFUL - DO-01	W OFF	I ON		415
5. Enter R DO-01 then click SEND	(expect = ON)				
1. Enter APPL AO-01 0 then click SEND then click SEND	APPL SUCCESSFUL - AO-01	W xxxx	I 0.0	V	413
2. Enter R AO-01 then click SEND	(expect = 0 v)				
3. Enter APPL AO-01 50 then click SEND then click SEND	APPL SUCCESSFUL - AO-01	W 0.0	I 50.0	V	413
4. Enter R AO-01 then click SEND	(expect = 50 v)				
1. Enter ISSU DPO-01 0 then click SEND then click SEND	ISSU SUCCESSFUL - DPO-01	W xxxx	I 0		411
2. Enter R DPO-01 then click SEND	(expect = 0)				
3. Enter ISSU DPO-01 #FF then click SEND then click SEND	ISSU SUCCESSFUL - DPO-01	W 0	I 255		411
4. Enter R DPO-01 then click SEND	(expect = 255)				
5. Enter SET _____ ON then click SEND then click SEND	(pcl blocks command)				
6. Enter SET _____ ON CLO then click SEND then click SEND	(command successful)				
7. Enter R _____ then click SEND	(expect = on)				
ACTIVATE/INHIBIT COMMAND ON A GSE FD					
1. Enter I CMD DO-01 then click SEND then click SEND	I CM SUCCESSFUL - DO-01				400
2. Enter SET DO-01 OFF then click SEND then click SEND	SET FAILED - GW/INDIVIDUAL INHIBIT INDICATOR SET				219
3. Enter R DO-01 then click SEND	(expect = on)				
4. Enter A CMD DO-01 then click SEND then click SEND	A CM SUCCESSFUL - DO-01				400
5. Enter SET DO-01 OFF then click SEND then click SEND	SET SUCCESSFUL	W ON	I OFF		415
6. Enter R DO-01 then click SEND	(expect = off)				
ACTIVATE/INHIBIT COMMANDS ON ALL GSE FDs					
1. Enter I CMD GS1A then click SEND then click SEND	I CM SUCCESSFUL - GW GS1A				401
2. Enter SET DO-01 ON then click SEND then click SEND	SET FAILED - GW/GLOBAL INHIBIT INDICATOR SET				218
3. Enter R DO-01 then click SEND	(expect = off)				
4. Enter APPL AO-01 0 then click SEND then click SEND	APPL FAILED - GW/ GLOBAL INHIBIT INDICATOR SET				218
5. Enter R AO-01 then click SEND	(expect 50)				
6. Enter ISSU DPO-01 0 then click SEND then click SEND	ISSU FAILED - GW/ GLOBAL INHIBIT INDICATOR SET				218
7. Enter R DPO-01 then click SEND	(expect = 255)				
8. Enter A CMD GS1A then click SEND then click SEND	A CM SUCCESSFUL - GW GS1A				401
9. Enter SET DO-01 ON then click SEND then click SEND	SET SUCCESSFUL - DO-01	W OFF	I ON		415
10. Enter R DO-01 then click SEND	(expect = on)				
11. Enter APPL AO-01 0 then click SEND then click SEND	APPL SUCCESSFUL - AO-01	W 50.0	I 0.0	V	413

DESCRIPTION/PROCEDURE	EXPECTED RESULTS	SMSG #
12. Enter R DO-01 then click SEND	(expect = 0)	
13. Enter ISSU DPO-01 0 then click SEND then click SEND	ISSU SUCCESSFUL - DPO-01 W 255 I 0	411
14. Enter R DPO-01 then click SEND then click SEND	(expect = 0)	
STATUS GSE FUNCTION DESIGNATORS		
1. Enter S FD DI-01 then click SEND (Type = DM)	CURRENT STATE = ON	
2. Enter S FD DO-01 then click SEND (Type = DS)	LAST STATE = ON	
3. Enter S FD AI-01 then click SEND (Type = AM)	PROCESSED DATA VAL = 500.0 V (approx.)	
4. Enter S FD AO-01 then click SEND (Type = AS)	LAST VALUE = 0.0 V	
5. Enter S FD DPI-01 then click SEND (Type = DPM)	CURRENT VALUE = 0	
6. Enter S FD DPO-01 then click SEND (Type = DPS)	LAST VALUE = 0	
ACTIVATE/INHIBIT DATA ACQUISITION ON GSE AND ON FD		
1. Enter I DA DI-01 then click SEND	I DA SUCCESSFUL - DI-01	400
2. Enter SET DO-01 OFF then click SEND	SET SUCCESSFUL - DO-01 W ON I OFF	415
3. Enter S FD DI-01 then click SEND	CURRENT STATE = ON	
4. Enter A DA DI-01 then click SEND	A DA SUCCESSFUL - DI-01	400
5. Enter S FD DI-01 then click SEND	CURRENT STATE = OFF	
6. Enter I DA GS1A then click SEND then click SEND	I DA SUCCESSFUL - GW GS1A	401
7. View SYST then click SEND	GS1A is not in GO mode	
8. Enter A DA GS1A then click SEND then click SEND	A DA SUCESSFUL - GW GS1A	401
9. View SYST	GS1A is in GO mode	
ACTIVATE/INHIBIT PROCESSING ON GSE FD AND GSE GLOBAL		
1. Enter I PR DI-01 then click SEND	I PR SUCCESSFUL - DI-01	400
2. Enter SET DO-01 ON then click SEND then click SEND	SET SUCCESSFUL - DO-01 W OFF I ON	415
3. Enter S FD DI-01 then click SEND	CURRENT STATE = OFF	
4. Enter I PR GS1A then click SEND then click SEND	I PR SUCCESSFUL - GW GS1A	401
5. Enter APPL AO-01 50 then click SEND then click SEND	APPL FAILED - GW/GLOBAL PROCESSING INHIBIT SET	282
6. Enter S FD AI-01 then click SEND	PROCESSED DATA VAL = 500 V (approx.)	
7. Enter ISSU DPO-01 #FF then click SEND then click SEND	ISSU FAILED - GW/ GLOBAL PROCESSING INHIBIT SET	282
8. Enter S FD DPI-01 then click SEND	CURRENT VALUE = 0	
9. Enter A PR GS1A then click SEND then click SEND	A PR SUCCESSFUL - GW GS1A	401
10. Enter S FD DI-01 then click SEND	CURRENT STATE = OFF	
11. Enter ISSU DPO-01 #FF then click SEND then click SEND	ISSU SUCCESSFUL - DPO-01 W 0 I 255	411
12. Enter S FD DPI-01 then click SEND	CURRENT VALUE = 255	
13. Enter I PR GS1A then click SEND then click SEND	I PR SUCCESSFUL - GW GS1A	401
14. Enter A PR GS1A RESET then click SEND then click SEND	A PR SUCCESSFUL - GW GS1A	401
15. Enter S FD DI-01 then click SEND	CURRENT STATE = ON	
CHANGE HARDWARE ADDRESS		
1. Enter S FD AI-01 then click SEND	HIM/CD/FC/RATE = 1/1/0	
2. Enter APPL AO-01 50 then click SEND then click SEND	APPL SUCCESSFUL - AO-01 W 0.0 I 50.0 V	413
3. Enter S FD AI-01 then click SEND	PROCESSED DATA VAL = 600 (approx.)	
4. Enter I DA AI-01 then click SEND	I DA SUCCESSFUL - AI-01	400
5. Enter C HA AI-01 1 1 1 then click SEND then click SEND	C HA SUCCESSFUL - AI-01 W 001 01 0 I 001 01 1	411

DESCRIPTION/PROCEDURE	EXPECTED RESULTS	SMSG #
6. Enter A DA AI-01 then click SEND	A DA SUCCESSFUL - AI-01	400
7. Enter S FD AI-01 then click SEND	PROCESSED DATA VAL = 500.0 and HIM/CD/FC/RATE = 1/1/1	
8. Enter I DA AI-01 then click SEND	I DA SUCCESSFUL - AI-01	400
9. Enter C HA AI-01 1 1 0 then click SEND then click SEND	C HA SUCCESSFUL - AI-01 W 001 01 1 I 001 01 0	411
10. Enter A DA AI-01 then click SEND	A DA SUCCESSFUL - AI-01	400
11. Enter S FD AI-01 then click SEND	PROCESSED DATA VAL = 600.0 (approx.) and HIM/CD/FC/RATE = 1/1/0	
ACTIVATE/INHIBIT HIM POLLING		
1. Select GS1A subpage of SYST	HIM polling active for HIM 1	
2. Enter I HI 1 GS1A then click SEND then click SEND	HIM polling inhibited for HIM 1 I HI SUCCESSFUL - HIM 1	422
3. Enter A HI 1 GS1A then click SEND then click SEND	HIM polling active for HIM 1 A HI SUCCESSFUL - HIM 1	422
ACTIVATE/INHIBIT HIM TESTING		
1. View GS1A subpage of SYST	GLOBAL HIM TESTING ENABLED = NO	
2. Enter A HT GS1A then click SEND then click SEND	A HT SUCCESSFUL - GW GS1A	401
3. View GS1A subpage of SYST	GLOBAL HIM TESTING ENABLED = YES	
4. Enter I HT GS1A then click SEND then click SEND	I HT SUCCESSFUL - GW GS1A	401
5. View GS1A subpage of SYST	GLOBAL HIM TESTING ENABLED = NO	
6. Enter S FD DI-01 then click SEND	HIM TEST STATUS: GW HIM TEST INHIBITED	
CHANGE FD SAMPLE RATE		
1. Enter S FD DI-01 then click SEND	RATE = 1	
2. Enter C RA DI-01 10 then click SEND then click SEND	C RA SUCCESSFUL - DI-01 SAMPLE RATE WAS 1 IS 10	406
3. Enter S FD DI-01 then click SEND	RATE = 10	
4. Enter C RA DI-01 100 then click SEND then click SEND	C RA SUCCESSFUL - DI-01 SAMPLE RATE WAS 10 IS 100	406
5. Enter S FD DI-01 then click SEND	RATE = 100	
6. Enter C RA DI-01 BASE then click SEND then click SEND	C RA SUCCESSFUL - DI-01 SAMPLE RATE WAS 100 IS 1	406
7. Enter S FD DI-01 then click SEND	RATE = 1	
ACT/INH CHANGE PROCESSING - SINGLE FD & GS1A		
1. RECORD THE UTC AS TIME 1		
2. Enter I CP DI-01 then click SEND then click SEND		
3. Enter I CP DI-01 then click SEND then click SEND		
4. WAIT 10 SECONDS		
5. RECORD THE UTC AS TIME 2		
6. Enter I CP GS1A then click SEND then click SEND		
7. Enter I CP GS1A then click SEND then click SEND		
8. Enter A CP GS1A then click SEND then click SEND		
9. Enter A CP GS1A then click SEND then click SEND		
10. RECORD THE TIME AS TIME 3		
11. Enter A CP DI-01 then click SEND then click SEND		
12. Enter A CP DI-01 then click SEND then click SEND		
13. RECORD THE TIME AS TIME 4		
14. RETRIEVE FD CHANGES FOR AI-01 (100 SPS) AND DI-01 FROM TIME 1 TO TIME 4 (+10 SEC.)		
15. VERIFY THAT DI-01 IS REPORTED AT A 1 SPS RATE AND IS NOT		

DESCRIPTION/PROCEDURE	EXPECTED RESULTS	SMSG #
CHANGING BETWEEN TIME 1 AND TIME 2 16. VERIFY THAT DI-01 AND AI-01 ARE ALSO REPORTED AT THEIR SAMPLE RATES OF 1 SPS AND 100 SPS, RESPECTIVELY BETWEEN TIME 2 AND TIME 3 AND THAT THEY ARE NOT CHANGING 17. VERIFY THAT DI-01 CONTINUES TO RECORD AT 1 SPS BETWEEN TIME 3 AND TIME 4 18. VERIFY THAT DI-01 CEASES TO RECORD AFTER TIME 4		
READ ENGINEERING UNITS COEFFICIENTS ON A GSE FD		
1. Enter R EUC AI-01 then click SEND		
CHANGE ENGINEERING UNITS COEFFICIENTS ON A GSE FD		
1. Enter SET AO-01 50 then click SEND then click SEND		
2. Enter S FD AI-01 then click SEND		
3. Enter C EUC AI-01 then click SEND		
4. Enter Change New A2 from _____ to _____		
5. Enter S FD AI-01 then click SEND		
6. Enter C EUC AI-01 then click SEND		
7. Change New A2 from _____ to _____		
8. Enter S FD AI-01 then click SEND		

Table 13. PCM Commanding and Command Processor Thread

DESCRIPTION/PROCEDURE	EXPECTED RESULTS	SMSG #
READ ENGINEERING UNITS COEFFICIENTS ON A PCM FD		
1. Enter R EUC PCMAMB-200 then click SEND		
CHANGE ENGINEERING UNITS COEFFICIENTS ON A PCM FD		
1. Enter S FD PCMAMB-200 then click SEND (Record the FD value)		
2. Enter C EUC PCMAMB-200 then click SEND		
3. Change New A2 from _____ to _____		
4. Enter S FD PCMAMB-200 then click SEND		
5. Enter C EUC PCMAMB-200 then click SEND		
6. Change New A2 from _____ to _____		
7. Enter S FD PCMAMB-200 then click SEND		
ACTIVATE/INHIBIT DATA ACQUISITION PCM		
1. Enter I DA OFIA then click SEND then click SEND	I DA SUCCESSFUL - GW OFIA	401
2. View SYST	OFIA is not in GO mode	
3. Enter A DA OFIA then click SEND then click SEND	A DA SUCCESSFUL - GW OFIA	401
4. View SYST	OFIA is in GO mode	
		400
1. Enter I PR AMDPAU171O then click SEND	I PR SUCCESSFUL - AMDPAU171O	
2. Enter S FD AMDPAU171O then click SEND	PROCESSING STATUS = INHIBITED S FD INFO - AMDPAU171O NOT IN CURRENT FORMAT OF FEP	458
3. Enter I PR OFIA then click SEND then click SEND	I PR SUCCESSFUL - GW OFIA	401
4. View SYST for OFIA	PROCESSING = INHIBITED	
5. Enter A PR OFIA then click SEND then click SEND	A PR SUCCESSFUL - GW OFIA	401
6. View SYST for OFIA	PROCESSING = ACTIVE	
7. Enter S FD AMDPAU171O then click SEND	PROCESSING STATUS = INHIBITED S FD INFO - AMDPAU171O NOT IN CURRENT FORMAT OF FEP	458
8. Enter I PR OFIA then click SEND then click SEND	I PR SUCCESSFUL - GW OFIA	401
9. Enter A PR OFIA RESET then click SEND then click SEND	A PR SUCCESSFUL - GW OFIA	401
10. Enter S FD AMDPAU171O then click SEND	PROCESSING STATUS = ACTIVE S FD INFO - AMDPAU171O NOT IN CURRENT FORMAT OF FEP	458
ACT/INH CHANGE PROCESSING - SINGLE FD & PCM		
1. RECORD THE UTC AS TIME 1		
2. Enter I CP OIFID199 then click SEND then click SEND		
3. Enter I CP OIFID199 then click SEND then click SEND		
4. WAIT 10 SECONDS		
5. RECORD THE UTC AS TIME 2		
6. Enter I CP OFIA then click SEND then click SEND		
7. Enter I CP OFIA then click SEND then click SEND		
8. Enter A CP OFIA then click SEND then click SEND		
9. Enter A CP OFIA then click SEND then click SEND		

DESCRIPTION/PROCEDURE	EXPECTED RESULTS	SMSG #
10. RECORD THE TIME AS TIME 3		
11. Enter A CP OIFID199 then click SEND then click SEND		
12. Enter A CP OIFID199 then click SEND then click SEND		
13. RECORD THE TIME AS TIME 4		
14. RETRIEVE FD CHANGES FOR OIFID199 AND DMBD01-01O FROM TIME 1 TO TIME 4 (+10 SEC.)		
15. VERIFY THAT OIFID199 IS REPORTED AT A 1 SPS RATE AND IS NOT CHANGING BETWEEN TIME 1 AND TIME 2		
16. VERIFY THAT OIFID199 AND DMBD01-01O ARE ALSO REPORTED AT THEIR SAMPLE RATES OF 1 SPS AND ____ SPS, RESPECTIVELY BETWEEN TIME 2 AND TIME 3 AND THAT THEY ARE NOT CHANGING		
17. VERIFY THAT DI-01 CONTINUES TO RECORD AT 1 SPS BETWEEN TIME 3 AND TIME 4		
18. VERIFY THAT DI-01 CEASES TO RECORD AFTER TIME 4		
STATUS PCM FUNCTION DESIGNATORS		
1. Enter S FD GPCBD-030 then click SEND (Type DM)	ADR/RATE = 1/0/61/2	
2. Enter S FD GPCAMB-904 then click SEND (Type AM)	ADR/RATE = 1/0/56/2	
3. Enter S FD GPCDP-010 then click SEND (Type DPM)	ADR/RATE = 1/21/63/2	
4. Enter S FD GPCAFL-002 then click SEND (Type FP DBL 64 BIT)	ADR/RATE = 1/1/84/10	
5. Enter S FD GPCAMU-011 then click SEND (Type AMDP 32 BIT AU)	ADR/RATE = 1/0/67/25	
6. Enter S FD GPCMWDPO4 then click SEND (Type 64BIT MWDPM)	ADR/RATE = 1/0/74/25	
7. Enter S FD GPCDS1 then click SEND (Type THDS)	TYPE 3 THDS	
8. Enter S FD GPCAFL-003 then click SEND (Type FP SPL 32)	ADR/RATE = 1/3/61/2	
9. then click SEND	?????????????????????	
ACTIVATE/INHIBIT FRAME LOGGING		
1. Record the time as TIME 1		
2. Enter A FL OFIA then click SEND	SUCCESSFUL	
3. Enter A FL OFIA then click SEND	SUCCESSFUL	
4. Wait 1 second		
5. Enter I FL OFIA then click SEND	SUCCESSFUL	
6. Enter I FL OFIA then click SEND	SUCCESSFUL	
7. Record the time as TIME 2		
8. Perform a Log Data retrieval from TIME 1 to TIME 2	FRAME COUNTER IS COUNTING (WORD #____)	
CHANGE PCM SOURCE SELECT		
1. View SYST OFIA subsystem page for OFIA and record the bit sync parameters in the EXPECTED RESULTS column of this table	DATA RATE = SOURCE = POLARITY = LOOP = VOICE =	
2. Enter PCMS OFIA RL S1 P- L2 VY then click SEND then click SEND	PCMS SUCCESSFUL - GW OFIA	
3. View the SYST page for OFIA	OFIA is not in GO mode DATA RATE = LO SOURCE = 1	

DESCRIPTION/PROCEDURE	EXPECTED RESULTS	SMSG #
	POLARITY = - LOOP = 2 VOICE = Y PEND = NA	
4. Enter PCMS OFIA Rx Sx Px Lx Vx (where x = the parameters recorded in Step 1) then click SEND then click SEND	PCMS SUCCESSFUL - GW OFIA	
5. View the SYST page for OFIA	OFIA is in GO mode DATA RATE = HI SOURCE = 2 POLARITY = + LOOP = 3 VOICE = N PEND = NA	
6. Enter PCMS OFIA RH S2 P+ L3 VN PEND then click SEND then click SEND	PCMS SUCCESSFUL - GW OFIA	
7. View the SYST page for OFIA	PEND column is as follows: DATA RATE = HI SOURCE = 2 POLARITY = + LOOP = 3 VOICE = N PEND = Y	
8. Enter PCMS OFIA RL S2 P+ L3 VN CANC then click SEND then click SEND	PCMS SUCCESSFUL - GW OFIA	
9. View the SYST page for OFIA	PEND column = N/A DATA RATE = HI SOURCE = 2 POLARITY = + LOOP = 3 VOICE = N	
CHANGE PCM BIT SYNC ERROR COUNT		
1. View the SYST page for OFIA	SYNC BIT ERRORS ALLOWED = 0	
2. Enter C PSB OFIA 1 then click SEND	C PS SUCCESSFUL - PCM BIT SYNC ERROR COUNT WAS 0 IS 1	420
3. View the SYST page for OFIA	SYNC BIT ERRORS ALLOWED = 0	
4. Enter C PSB OFIA 0 then click SEND	C PS SUCCESSFUL - PCM BIT SYNC ERRORS COUNT WAS 1 IS 0	420

Table 14. LDB Commanding and Command Processor Thread

DESCRIPTION/PROCEDURE	EXP. RESULTS	SMSG #
ACTIVATE/INHIBIT LDB COMMANDS		
1. Enter SET V75K2767YL OFF then click SEND then click SEND	SET SUCCESSFUL - V75K2767YL	400
2. Enter CBTU BT4 V75K2767YL 1 then click SEND	CBTU V75K2767YL 0000	427
3. Enter I CMD V75K2767YL then click SEND then click SEND	I CM SUCCESSFUL - V75K2767YL	400
4. Enter SET V75K2767YL ON then click SEND then click SEND	SET FAILED - GW/INDIVIDUAL INHIBIT INDICATOR SET	219
5. Enter CBTU BT4 V75K2767YL 1 then click SEND	CBTU V75K2767YL 0000	427
6. Enter A CMD V75K2767YL then click SEND then click SEND	A CM SUCCESSFUL - V75K2767YL	400
7. Enter SET V75K2767YL ON then click SEND then click SEND	SET SUCCESSFUL - V75K2767YL	400
8. Enter CBTU BT4 V75K2767YL 1 then click SEND	CBTU V75K2767YL 8000	427
9. Enter I CMD LDBA then click SEND then click SEND	I CM SUCCESSFUL - GW LDBA	401
10. Enter SET V75K2767YL OFF then click SEND then click SEND	SET FAILED - GW/GLOBAL INHIBIT INDICATOR SET	218
11. Enter CBTU BT4 V75K2767YL 1 then click SEND	CBTU FAILED - GW/GLOBAL INHIBIT INDICATOR SET	218
12. Enter A CMD LDBA	A CM SUCCESSFUL - GW LDBA	401
13. Enter SET V75K2767YL OFF then click SEND then click SEND	SET SUCCESSFUL - V75K2767YL	400
14. Enter CBTU BT4 V75K2767YL 1 then click SEND	CBTU V75K2767YL 0000	427
ACTIVATE/INHIBIT LDB DATA ACQUISITION		
1. Verify GPC computers are powered down		
2. Enter I DA LDBA then click SEND then click SEND		
3. Enter I DA LDBA then click SEND then click SEND		
4. View SYST		
5. Enter A DA LDBA DIO 2 then click SEND then click SEND		
6. View SYST		
7. Power up GPC computers		
8. Enter I DA LDBA then click SEND then click SEND		
9. View SYST		
10. Enter A DA LDBA GPC then click SEND then click SEND		
11. Enter A DA LDBA GPC then click SEND then click SEND		
12. View SYST		
STATUS LDB FUNCTION DESIGNATORS		
1. Enter S FD P01X5238L then click SEND (Type DM)	NOT IN DATABASE	
2. Enter S FD V75K2767YL then click SEND (Type DS)	S FD PAGE IS DISPLAYED	
3. Enter S FD P01U5213VL then click SEND (Type AM)	S FD PAGE IS DISPLAYED	
4. Enter S FD V45K1114GL then click SEND (Type AS)	S FD PAGE IS DISPLAYED	
5. Enter S FD LDBDPM-01 then click SEND (Type DPM)	S FD PAGE IS DISPLAYED	
6. Enter S FD LDBDPS-003 then click SEND (Type DPS)	S FD PAGE IS DISPLAYED	
7. Enter S FD V74H2618JL then click SEND (Type AMS)	S FD PAGE IS DISPLAYED	
8. Enter S FD V74H2650JL then click SEND (Type ASS)	S FD PAGE IS DISPLAYED	
9. Enter S FD V74K1611BL then click SEND (Type DSS)	S FD PAGE IS DISPLAYED	
10. Enter S FD V74K1614BL then click SEND (Type DPSS)	S FD PAGE IS DISPLAYED	
11. Enter S FD LDBDPMSI-1 then click SEND (Type DPMS)	S FD PAGE IS DISPLAYED	

DESCRIPTION/PROCEDURE	EXP. RESULTS	SMSG #
12. Enter S FD PDIBSR then click SEND (Type BTU)	S FD PAGE IS DISPLAYED	
13. Enter S FD CVCMP-025B then click SEND (Type DPSD 1)	S FD PAGE IS DISPLAYED	
14. Enter S FD DPSDTWOD0L then click SEND (Type DPSD 2)	S FD PAGE IS DISPLAYED	
15. Enter S FD _MMR LDBA then click SEND (Type RID)	S FD PAGE IS DISPLAYED	

Table 15. LDB-Unique Commands, Commanding and Command Processor Thread

DESCRIPTION/PROCEDURE	EXP. RESULTS	SMSG #
Issue, Set, and Apply commands to GPC (MDM Only)		
1. Enter ISSU NGPCLMCNFG #0009 then click SEND then click SEND (Set Mem. Config.)	ISSU SUCCESSFUL - NGPCLMCNFG W xxxx I #0009	411
2. Enter APPL V45K1114GL 5 then click SEND then click SEND	APPL SUCCESSFUL - V45K1114GL	400
3. Enter CBTU BT4 V45K1114GL 1 then click SEND then click SEND	CBTU V45K1114GL 7D00	427
4. Enter APPL V45K1114GL 0 then click SEND then click SEND	APPL SUCCESSFUL - V45K1114GL	400
5. Enter CBTU BT4 V45K1114GL 1 then click SEND then click SEND	CBTU V45K1114GL 0000	427
1. Enter SET V75K2767YL ON then click SEND then click SEND	SET SUCCESSFUL - V75K2767YL	400
2. Enter CBTU BT4 V75K2767YL 1 then click SEND then click SEND	CBTU V75K2767YL 8000	427
3. Enter SET V75K2767YL OFF then click SEND then click SEND	SET SUCCESSFUL V75K2767YL	400
4. Enter CBTU BT4 V75K2767YL 1 then click SEND then click SEND	CBTU V75K2767YL 0000	427
1. Enter ISSU B70M3520PL 0000 then click SEND then click SEND	ISSU SUCCESSFUL - B70M3520PL	400
2. Enter CBTU BT4 B70M3520PL 1	CBTU B70M3520PL 0000	427
3. Enter ISSU B70M3520PL #22 then click SEND then click SEND	ISSU SUCCESSFUL - B70M3520PL	400
4. Enter CBTU BT4 B70M3520PL 1	CBTU B70M3520PL 0000 - SEE PETE - THE VALUE S/B NOT = 0000	427
LDB Master Reset		
1. Enter CBTU MR LL1 then click SEND then click SEND	CBTU LL1	427
Load BSR		
1. Enter CBTU LBSR LL1 #1111 then click SEND then click SEND	CBTU LL1	427
2. Enter CBTU RBSR LL1 then click SEND then click SEND *	CBTU LL1 1111	427
BITE Test 1		
1. Enter CBTU BT1 LL1 2 then click SEND then click SEND	CBTU LL1	427
	HOW TO VERIFY	
BITE Test 3		
1. Enter CBTU BT3 LL1 2 then click SEND then click SEND	CBTU LL1	427
	HOW TO VERIFY	
Write to GPC Memory		
1. Enter GPCC LDBA then click SEND	Window is displayed	
2. Place Cursor on CONTIGUOUS WRITE - NON PROTECT then		

DESCRIPTION/PROCEDURE	EXP. RESULTS	SMSG #
click SEND		
3. Enter #1D1A1 #1 #2 #3 #4 #5 END (Write 5 words) then click SEND	ADDR "IS/WILL BE" LIST IS DISPLAYED	
4. At LINE 5, enter GO then click SEND	REQUEST SUCCESSFULLY COMPLETED	
Read From GPC Memory		
1. Enter GPCC LDBA then click SEND	Window is displayed	
2. Place Cursor on CONTIGUOUS READ GPC then click SEND	"ENTER STARTING ADDRESS AND NUMBER OF WORDS" IS DISPLAYED	
3. Enter #1D1A1 #5 then click SEND (Read same 5 words written above)	ADDR #1D1A1 0001 0002 0003 0004 0005 REQUEST SUCCESSFULLY COMPLETED	
Send Simulated Keystrokes to GPC		
1. Enter DEUE DEST GN&C 1 LDBA 0 then click SEND	DEV INFO - MF = GN&C, DEUE = ?, LINK= LDB, GPC = 0 ????	454
2. Enter S FD GPCDP-010	CURRENT VALUE = 0	
3. Enter DEUE SPEC 123 PRO	DEU SUCCESSFUL	417
4. Enter S FD GPCDP-010	CURRENT VALUE = 123	
Control LDB Polling		
1. Check SYST to determine which LDB Bus is active	Record Bus #	
2. Enter GPCC LDBA then click SEND		
3. Select POLL GSE ON LDB #x <PFK1> (NEED KATS)		
4. Verify on SYST that polling is on Bus #x: Retrieve SPRDR SPLDUP <TIME> REQ=LB ALL ALL END	Record Bus #	
Read Command From GPC (MDM Only)		
1. Enter READ FF4 250 16 then click SEND then	#FA-#109 ARE DISPLAYED AS FFFF READ SUCCESSFUL	417
2. RBSR tested earlier *		
3. Enter CBTU WRAP LL1 2048 2 then click SEND then click SEND	CBTU LL1 2000	427
4. Enter CBTU BT2 LL1 then click SEND then click SEND	CBTU LL1 8000 B500 0000 4B00 7FC0	427
5. BT4 tested earlier *		
Send DEU Text Message to GPC		
	TEXT SUCCESSFUL	417

DESCRIPTION/PROCEDURE	EXP. RESULTS	SMSG #
1. Enter TEXT O THIS IS A TEST then click SEND		
2. Enter TEXT G THIS IS A TEST then click SEND	TEXT SUCCESSFUL THIS IS A TEST	426

Table 16. Miscellaneous Commanding and Command Processor Thread Commands

COMMAND/ 033-1 PG	DESCRIPTION/PROCEDURE	EXP. RESULTS
STATUS PSEUDO FD	STATUS FUNCTION PSEUDO DESIGNATORS	
033-18 () PD	1. Enter S FD NFEPLDB then click SEND	?????????????????????????????
033-18 () PDP	2. Enter S FD NGPCLMCNFG then click SEND	CURRENT VALUE = #0009
033-18 () SSA1	3. Enter S FD SGS1ADATAV then click SEND	CURRENT VALUE = ON
033-18 () SSA2	4. Enter S FD SOIFID then click SEND	CURRENT VALUE = 199
SYST	RUN SYSTEM STATUS	
	Enter SYST then click SEND	SYS is displayed
	Browse SYST sub-pages	ALL'S WELL
	Terminate SYST	
	Enter SYST GS1A then click SEND	GS1A SYST page is displayed

Table 17. CM Server Commanding and Command Processor Thread

COMMAND	DESCRIPTION/PROCEDURE	EXP. RESULTS
CONFIG STATUS	CM SERVER CONFIGURATION STATUS REQUEST	
	1. Terminate the Test Set	
	2. Enter S CS GS1A then click SEND	
INIT SCID & TCID	CM SERVER INIT GS1A SCID & TCID	
	1. Enter I SC GS1A then click SEND	
	2. Enter I TC GS1A then click SEND	
	3. View SYST page	GS1A is loaded
ACTIVATE GW	CM SERVER ACTIVATE GS1A GW	
	1. Enter ACT GS1A then click SEND	
	2. View SYST page	GS1A is Communicating

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